=> fil reg
FILE 'REGISTRY' ENTERED AT 07:46:14 ON 11 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 10 DEC 2002 HIGHEST RN 475623-85-9
DICTIONARY FILE UPDATES: 10 DEC 2002 HIGHEST RN 475623-85-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d sta que l41
L31 SCR 2005 OR 1994 OR 2021 OR 2016 OR 2026 OR 2039 OR 2050 O
R 2049 OR 2052 OR 2051 OR 2054
L38 STR

5
C

NCN 2 Ak
2 3 4

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE
L36 SCR 1199
L41 2031 SEA FILE=REGISTRY CSS FUL L36 AND L38 NOT L31

100.0% PROCESSED 146966 ITERATIONS 2031 ANSWERS
SEARCH TIME: 00.00.01

=> d que l35
L35 1 SEA FILE=REGISTRY ABB=ON PLU=ON UREA/CN

=> d ide can tot l144

L144 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN **9003-05-8** REGISTRY
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acrylamide, polymers (8CI)

OTHER NAMES:
CN 2-Propenamide hydrochloride homopolymer
CN 2J
CN 33-0s
CN 39F
CN Accotrol S 632
CN Acrylamide homopolymer
CN Acrylamide polymer
CN Arc-flood 111
CN American Cyanamid KPAM
CN American Cyanamid P 250
CN AMF
CN Antrogen PA
CN AP 273
CN Arc. F 40
CN Bardrift
CN Bauze Floc N 46BT
CN Belgon 470
CN Belgon 490
CN CM 273
CN CM 911
CN Cyqam 2-P
CN Cyqam 2-R
CN Cyfize WLV
CN Cyanamer A 150L
CN Cyanamer N 10
CN Cyanamer N 100
CN Cyanamer N 100L
CN Cyanamer N 300
CN Cyanamer N 300LMW
CN Cyanamer P 250
CN Cyanamer P 35
CN Cyfame
CN Diaclear MA 3001H
CN Diaclear MN 3006
CN Diaclear MN 3000H
CN Discol 1600
CN DK Dry Capsule FSP
CN DKC-ORP-F 40MT
CN Dow 164
CN Dow ET 397
CN Dow J 109
CN DP 1916
CN DP 3-6195
CN DP 415
CN E 996
CN ET 397
CN Flyotol GB
CN Formacryl
CN Formula 35A
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 1[illegible]4-24-7, 9041-06-8, 122177-63-3, 57679-11-5, 25038-45-3, 104981-68-7, 111.65-35-9, 31512-40-4, 68247-81-4, 72270-86-1, 79079-15-5, 143180-09-0, 143180-13-6, 143180-22-7, 143749-07-9, 27754-57-0, 33338-03-3, 39355-07-2, 5[illegible]-7-7-4, 200138-95-0, 443682-77-7
MF (C3 H5 N O)x
CI PMS, COM
PCT Polyacrylic, Polyamide, Polyamide formed
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS,

NIOSHTIC, PDLCOM*, PHARMASEARCH, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USEAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 79-06-1
CMF C3 H5 N O

O

H_2N C CH CH_2

10672 REFERENCES IN FILE CA (1962 TO DATE)
9308 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
10714 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:361870

REFERENCE 2: 137:359741

REFERENCE 3: 137:351065

REFERENCE 4: 137:334181

REFERENCE 5: 137:331228

REFERENCE 6: 137:331059

REFERENCE 7: 137:327412

REFERENCE 8: 137:327180

REFERENCE 9: 137:327018

REFERENCE 10: 137:327154

These are the "hits" compounds for claims 1-23

L144 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN **79-39-0** REGISTRY
CN 2-Propenamide, 2-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methacrylamide (8CI)
OTHER NAMES:
CN 2-Methyl-2-propenamide
CN 2-Methylacrylamide
CN 2-Methylpropenamide
CN Methacrylic acid amide
CN Methacrylic amide
FS 3D CONCORD
MF **C4 H7 N O**
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DETHERM*, DIPPR*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1520 REFERENCES IN FILE CA (1962 TO DATE)
398 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1521 REFERENCES IN FILE CAPLUS (1962 TO DATE)
79 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:339367

REFERENCE 2: 137:315731

REFERENCE 3: 137:[illegible]82

REFERENCE 4: 137:330427

REFERENCE 5: 137:340771

REFERENCE 6: 137:337337

REFERENCE 7: 137:333303

REFERENCE 8: 137:169178

REFERENCE 9: 137:[illegible]4

REFERENCE 10: 137:[illegible]2

L144 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN **79-06-1** REGISTRY
CN 2-Propenamide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acrylamide (8CI)
OTHER NAMES:
CN Acrylic amide
CN Ethylenecarboxamide
CN Propenamide
CN Vinyl amide
FS 3D CONCORD
MF **C3 H5 N O**
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

O

H_2N C CH CH_2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9738 REFERENCES IN FILE CA (1962 TO DATE)
2879 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9752 REFERENCES IN FILE CAPLUS (1962 TO DATE)
12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:362097

REFERENCE 2: 137:357297

REFERENCE 3: 137:354975

REFERENCE 4: 137:354294

REFERENCE 5: 137:353797

REFERENCE 6: 137:353494

REFERENCE 7: 137:353363

REFERENCE 8: 137:351540

REFERENCE 9: 137:341891

REFERENCE 10: 137:341696

L144 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN **60-35-5** REGISTRY
CN Acetamide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Acetic acid amide
CN Acetimidic acid
CN Ethanamide
CN Ethanimidic acid
CN Methanecarboxamide
FS 3D CONCORD
MF **C2 H5 N O**
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MERCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

O

H_2N C CH_3

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4584 REFERENCES IN FILE CA (1962 TO DATE)
179 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4586 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:354373

REFERENCE 2: 137:352492

REFERENCE 3: 137:338531

REFERENCE 4: 137:333145

REFERENCE 5: 137:333144

REFERENCE 6: 137:313463

REFERENCE 7: 137:311714

REFERENCE 8: 137:311112

REFERENCE 9: 137:310852

REFERENCE 10: 137:310706

L144 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN **57-13-6** REGISTRY
CN **Urea (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN B-I-F
CN Bonural 7
CN Carbamide
CN Carbamimidic acid
CN Carbonyl diamide
CN Eucerin 10% Urea Lotion
CN Imurea
CN Keratinamin Kowa
CN Optigen 1000
CN Rastaron
CN Rastaron 10
CN Rastaron 50
CN Rastaron 50 soft
CN Rheadourea
CN UR
CN Urea perhydrate
CN Ureaphil
CN Ureophil
CN Urepeal
CN Urepeal L
CN Urepearl
CN Urevert
CN Varidform II
FS 3D CONCORD
DR 3458-50-3
MF C H4 N2 O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,

ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
IPA, MEDLINE, MRCK*, MSDS-OHS, NAPPALERT, NIOSHTIC, PIRA, PHAR, PIRA,
PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN,
USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

)

H_2N C NH_2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

56846 REFERENCES IN FILE CA (1962 TO DATE)
3958 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
57913 REFERENCES IN FILE CAPLUS (1962 TO DATE)
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:361611

REFERENCE 2: 137:361442

REFERENCE 3: 137:360911

REFERENCE 4: 137:358854

REFERENCE 5: 137:358147

REFERENCE 6: 137:357854

REFERENCE 7: 137:357665

REFERENCE 8: 137:357324

REFERENCE 9: 137:357078

REFERENCE 10: 137:356113

=> d his

(FILE 'HOME' ENTERED AT 06:29:18 ON 11 DEC 2002)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 06:29:26 ON 11 DEC 2002
E SANA T/AU
L1 16 S E6-E11
E WOLBER R/AU
L2 40 S E3-E7
E PERBOST C/AU
E AGILENT PA,CS
L3 539 S E3-E105
L4 8 S L1,L2 AND L3
L5 1 S L1 AND L2
L6 9 S L4,L5
SEL RN
DEL SEL
E PROBES/ST
E E4+ALL

```
L7          14360 S E6-E8,E5
                  E E10+ALL
L8          23824 S E3,E7+NT
                  E E11+ALL
L9           6766 S E5+NT
L10          7561 S E4+NT
L11            11 S L1,L2 AND L7-L10
L12            11 S L3 AND L7-L10
L13            18 S L6,L11
L14             7 S L7 AND L12
L15            18 S L13,L14

     FILE 'REGISTRY' ENTERED AT 06:34:09 ON 11 DEC 2002

     FILE 'HCAPLUS' ENTERED AT 06:34:15 ON 11 DEC 2002
                  SET SMARTSELECT ON
L16           SEL L15 1- RN :     1404 TERMS
                  SET SMARTSELECT OFF

     FILE 'REGISTRY' ENTERED AT 06:34:16 ON 11 DEC 2002
L17          1404 S L16
L18             4 S L17 NOT SQL/FA
L19             8 S L17 NOT UNSPECIFIED

     FILE 'HCAPLUS' ENTERED AT 06:35:45 ON 11 DEC 2002
L20            43 S L1,L2 NOT L15

     FILE 'REGISTRY' ENTERED AT 06:35:55 ON 11 DEC 2002

     FILE 'HCAPLUS' ENTERED AT 06:35:59 ON 11 DEC 2002
                  SET SMARTSELECT ON
L21           SEL L20 1- RN :      107 TERMS
                  SET SMARTSELECT OFF

     FILE 'REGISTRY' ENTERED AT 06:36:01 ON 11 DEC 2002
L22           107 S L21
L23            11 S L22 NOT SQL FA
L24            96 S L22 NOT L23
L25               STR
L26             9 S L25 CSS
L27               SCR 2041 OR 1938 OR 2005 OR 1994 OR 2021 OR 2016 OR 2026 OR 203
L28             4 S L27 NOT L17 CSS
L29               STR L25
L30             7 S L29 NOT L7 CSS
L31               SCR 2043 OR 1994 OR 2021 OR 2016 OR 2026 OR 2039 OR 2050 OR 204
L32             1 S L29 CSS
L33               STR L29
L34             1 S L33 CSS
L35             1 S UREA/CN
L36               STR L33
L37             1 S L33 SAT
L38               SCR 1148
L39             1 S L36 AND L38 CSS
L40            10 S L36 AND L38 NOT L31 CSS
L41          2041 S L36 AND L38 NOT L31 CSS FUL
                  SAV L41 TUN300166A/A
L42           768 S L41 AND L2 NS
L43            35 S L42 AND IDS/CI
L44            18 S L43 NOT (C6 ES OR (CL OR BR OR F)/ELS OR N>=2)
L45            16 S L43 NOT L44
L46           752 S L42 NOT L45
L47          1279 S L41 NOT L46
L48             0 S L47 AND SQL/FA
```

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L49          1097 S L47 AND PMS/CI
L50           182 S L47 NOT L49
L51            23 S L50 AND MR=1
L52           157 S L50 NOT L51
L53           119 S L52 NOT (COMPD OR WITH OR MXS/CI)
L54           102 S L53 NOT MOLYBDIC
L55            82 S L54 NOT L49
L56            51 S L55 NOT SALT
L57            41 S L56 NOT COMPOUND?
L58            37 S L57 NOT L5
L59           956 S L17,L18,L34
                  SAV L59 TUNG-061686A/A
L60          4590 S 57-13-6/CRN
L61             1 S L60 AND UREA
L62          1993 S L60 NOT (ISI OR MNS OR MXS OR PMS)/CI
L63            71 S L62 NOT (COMPOUND? OR COMPD OR WITH)
L64            71 S L63 NOT COMPLEX
L65            71 S L58,L64
                  SAV L65 TUNG-061686B/A

     FILE 'HCA-LS' ENTERED AT 09:35:52 ON 11 DEC 2002
L66           67 S L59 OR L65
L67            1 S L66 AND PY<=2000
L68            1 S L66 AND (NUCLEIC OR OLIGONUCL? OR DEOXYRIBONUCLEIC)
L69            1 S L66 AND HYBRID

     FILE 'HCAPLUS' ENTERED AT 10:57:06 ON 11 DEC 2002
L1          39767 S L59
L71         57811 S L65
L72        179444 S UREA
L73        118085 S ACRYLAMIDE OR POLYACRYLAMIDE OR POLY ACRYLAMIDE
L74        307399 S L71-L73
L75           507 S L71-L1  AND L74
L76            41 S L75 AND HYBRID
L77            31 S L76 AND  MICROARRAY? OR MICRO ARRAY?)
L78            47 S L76 AND TEMPERATURE
L79             6 S L77 AND L78
                  E NUCLEIC ACIDS+CT
L80          3991 S E3-E7
                  E E3+ALL
L81         57055 S E3+NT
L82         59068 S E3+OLT OR E382+NT OR E383+NT OR E384+NT OR E386+NT OR E387+N
                  E OLIGONUC/CT
L83           151 S E11-E13
                  E E13+ALL
L84          5173 S E5,E6+NT
                  E E5+ALL
L85        437026 S E197+NT OR E198+NT OR E160+NT OR E161+NT OR E162+NT OR E163+N
L86         31127 S L71 AND L2 -L85
L87           665 S L77,L78 AND (HYBRID? OR SYNTHE?)
L88            49 S L87 AND TEMPERATURE
                  E TEMPERATURE CI
L89             2 S L84 AND E4-E11
L90           137 S L84 AND E17-E31
                  E E5+ALL
L91           192 S L84 AND E1+NT
L92           579 S L84 AND (E53+NT OR E54+NT OR E51+NT OR E52+NT OR E58+NT OR E5
                  E TEMPERATURE EFFECTS/CT
                  E E5+ALL
                  E E6+ALL
L93           133 S L84 AND E1+NT
L94          1204 S L86-L92
L95            40 S L94 AND (MICROARRAY? OR MICRO ARRAY?)
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                E NUCLEIC ACID HYBRIDIZATION/CT
L96          9896 S E4-E26
                E E3+ALL
L97        238.4 S E3,E2+NT
L98          3   S L74 AND L96,L97
L99          1   S L97 AND L1-L19
L100         1   S L98,L99 AND TEMPERATURE
L101         4   S L95,L100 AND L1-L15,L20,L70-L100
L102         1   S L101 AND PROBE
L103         1   S L101 NOT L102
L104         1   S L103 AND PROBE,SX
L105         1   S L104 AND PROBE,SX
L106         1   S L105,L106
L107         1   S L101 NOT L106
L108         1   S L107 AND PROBE,SX
L109         1   S L106,L108
L110         1   S L1-L13 AND L14
L111         1   S L110 AND PROBE
L112         1   S L109 AND PROBE
L113         1   S L111 AND L77,L78
L114         1   S L112 AND L77,L78
L115         1   S L113 NOT L114
                SEL HIT RN
L116         1   S E1-E3
                SEL HIT RN L111 3-6
L117         4   S E4-E18
L118         1   S L116 AND TEMP?,CW
L119        50   S L116-L118
L120       505   S L70,L71 AND TEMP?,CW
                E TEMPERATURE/CT
L121       285   S L70,L71 AND E4-E26
L122        19   S L70,L71 AND E27-E39
                E E3+ALL
L123       174   S L70,L71 AND (E1+NT OR E51+NT OR E52+NT OR E53+NT OR E54+NT OR
L124       174   S L121-L123
L125        27   S L124 AND L7-L10,L80-L85,L96,L97
L126         1   S L125 AND PROBE,SX
L127       124   S L125 AND (PROBE OR DNA OR RNA OR CDNA OR MRNA OR ?NUCLEIC? OR
L128       582   S L121-L127
L129         6   S L128 AND (MICROARRAY? OR ?MICRO ARRAY?)
L130        14   S L128 AND HYBRID?
                E DNA HYBRID/CT
                E NUCLEIC ACID HYBRID/CT
L131       9967  S E5-E27
                E E4+ALL
L132     2386.4  S E3,E2+NT
                E E1+ALL
L133       7561  S E4+NT
L134         29  S L128 AND L131-L133
L135          1  S L128,L130,L134
L136          4  S L116,L135 AND L1-L15,L70-L135
L137          1  S L136 AND L70,L71
L138         24  S L111,L116,L117,L137 AND L1-L15,L70-L137
L139         11  S L1    AND TEMP? CT
L140         14  S L138 NOT L139
                SEL HIT RN
L141         11  S L140 NOT E1-E3
L142         24  S L139,L141
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 07:45:18 ON 11 DEC 2002
L143         24  S E4-E27
L144          1  S L143 AND L69,L85
```

FILE 'REGISTRY' ENTERED AT 07:46:14 ON 11 DEC 2002

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 07:47:32 ON 11 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 11 Dec 2002 VOL 137 ISS 25
FILE LAST UPDATED: 10 Dec 2002 (20021210/ED)

This file contains CAS Registry Numbers for easy and accura substance identification.

CAS roles have been modified effective December 16, 2001. Pl check your SDI profiles to see if they need to be revised. F information on CAS roles, enter HELP ROLES at an arrow promp the CAS Roles thesaurus (RL field) in this file.

Note How The Correct Attempt Had Partly Been Removed In Each Operation

=> d 1112 all tot

L112 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:178214 HCAPLUS
DN 137:199900
TI **Oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food
IN Banada, Padmanabha Padmapriya; Aiyagari, Ramesh; Arun, Chandrashekar; Nireshwalia, Keshava; Mandyan, Chakravarathy Varadaraj
PA Council of Scientific and Industrial Research, India
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-68
CC **3-1** (Biochemical Genetics)
Section cross-reference(s): , 10, 17
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002067950	A1	20020910	WO 2001-IN71	20010330

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AB The present invention provides **oligonucleotide** primers for phosphotidyl inositol-specific phospholipase C gene amplification in

B.cereus. Method for the detection of very low amts. of B.cereus in foods using guid primers and PCR reactions are provided. In a specific embodiment the foodstuffs are cooked rice and milk. **DNA** is extd. from cooked rice using 0.5-2% Triton X-100 and boiling at 96-100.degree. for 5-7 mins and treatment with phenol:chloroform in the ratio of 22:21-.5:27. Template **DNA** from B. cereus in milk is extd. using di-Et ether:chloroform in the ratio of 1:1-1:3, 1.5-3.5 M **urea** and sodium dodecyl sulfate in the range of 0.5-2%. PCR is performed in a total reaction vol. of 25 .upsilon.L contg. 5-15 mM Tris-HCl, 45-55 mM KCl, 1.5-3.0 mM MgCl2, 0.005-0.02% gelatin, 150-300 .mu.M dNTPs, 50-60 pmoles of each primer, 0.5-2.0 U Taq **DNA** polymerase and 1-3 .upsilon.L of template **DNA**. PCR reaction is performed by initial denaturation at 90-98.degree. for 2-8 min, amplification cycles of 28-40, each cycle with a denaturation at 90-98.degree. for 45-75 s, annealing at 46-54.degree. for 40-80 s, extension at 68-76.degree. for 45-75 s and a final extension at 68-76.degree. for 4-15 mins. The PCR product is visualized by electrophoretic sepn. on 1.2-1.8% agarose gel, staining with 0.5 g/L ethidium bromide and observation in a UV transilluminator.

ST primer phosphatidylinositol phospholipase C gene Bacillus; **oligonucleotide** primer detection Bacillus contamination food; sequence Bacillus phosphatidylinositol phospholipase C gene

IT Microorganism
(Bacillus cereus detection in mixed; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Milk
(Bacillus cereus detection in; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **DNA**
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(Bacillus cereus, extn. from cooked rice and milk; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Gel electrophoresis
(agarose, detection of Bacillus cereus **DNA** by; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Rice (Oryza sativa)
(cooked, Bacillus cereus detection in; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **PCR (polymerase chain reaction)**
(for detection of phosphatidylinositol-specific phospholipase C gene; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Gene, microbial
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for phosphatidylinositol-specific phospholipase C, of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **Deoxyribonucleoside triphosphates**
Gelatins, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in PCR reaction for detection of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Cell
(no., detection of Bacillus cereus; **oligonucleotide** primers

for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **Temperature effects, biological**
(of PCR reaction for detection of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **DNA sequences**
(of phisphatidylinositol-specific phospholipase C gene of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Protein sequences
(of phisphatidylinositol-specific phospholipase C of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT Bacillus cereus
Food
Nucleic acid hybridization
(**oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **Primers (nucleic acid)**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT UV radiation
(transilluminator, detection of Bacillus cereus **DNA** using; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 67-66-3, Chloroform, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Bacillus cereus **DNA** extd. from cooked rice and milk using; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 108-95-2, Phenol, biological studies 9002-93-1, Triton X100
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Bacillus cereus **DNA** extd. from cooked rice using; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **57-13-6, Urea**, biological studies 60-29-7, Diethyl ether, biological studies 151-21-3, Sodium dodecyl sulfate, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Bacillus cereus **DNA** extd. from milk using; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 468103-05-9
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
81-1F primer sequence; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 468113-06-0
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(P1-2R primer sequence; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 9012-90-2
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(Taq, in PCR reaction for detection of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 462166-21-7
RL: BUU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 1239-45-8, Ethidium bromide
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(detection of Bacillus cereus **DNA** by staining with; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT **9012-36-6**, Agarose
RL: BUU (Biological use, unclassified ; BIOL (Biological study); USES (Uses)
(gel electrophoresis, detection of Bacillus cereus **DNA** by; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 1185-53-1, Tris hydrochloride 7447-40-7, Potassium chloride (KCl), biological studies 7786-30-3, Magnesium chloride (MgCl2), biological studies
RL: BUU (Biological use, unclassified ; BIOL (Biological study); USES (Uses)
(in PCR reaction for detection of Bacillus cereus; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 140074-29-3, GenBank M99439
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(**nucleotide** sequence; **oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

IT 83511-76-9, Phosphatidylinositol-specific phospholipase C
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**oligonucleotide** primers for detection of phosphatidylinositol-specific phospholipase C gene of Bacillus cereus in food)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Hyldebrink, S; SYSTEMATIC AND APPLIED MICROBIOLOGY 1996, V19(3), P436
(2) Kuppe, A; JOURNAL OF BACTERIOLOGY 1989, V171(11), P6077 HCAPLUS

L142 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2002 ACS

AN **2002:778193** HCAPLUS

DN **137:289897**

TI Use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel analysis

IN Krylov, Alexander; Mirzabekov, Andrei; Prokopenko, Dmitry; Perrière-Yunin, Josette; Nasedateleva, Olga

PA University of Chicago, USA

SO PCT Int. Appl., 54 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM C12Q
CC **3-1** (Biochemical Genetics)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002079488	A2	20021010	WO 2001-US49556	20011227

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-788419P P 20010119

AB **Nucleic** acids or proteins immobilized in a gel pad are interacting with a protein and the **nucleic** acid-protein and protein-protein interactions are characterized and measured. Large-scale, parallel measurements of these interactions can be examd. to provide a powerful tool in elucidating interactions between proteins and **nucleic** acids. The method is demonstrated by using a generic **hexadeoxyribonucleotide** gel-pad microchip to test the **DNA** -binding properties of HU histone-like bacterial protein, which is known to have a low sequence specificity. Large scale set of 6-mers **oligonucleotides** contg. 6-mers core with degenerate bases at both the 3'- and 5'-ends are immobilized within **polyacrylamide** gel pads of the microchip. The double-stranded duplexes are formed from single-stranded immobilized **oligonucleotides** by **hybridization** with a specific mixt. of 6-mers. The melting **temp.** (Tm) curves of ssDNA or dsDNA microchips in the presence or absence of HU protein are analyzed. The statistical data suggest HU protein forms two classes of complexes with **DNA**, a major one with dsDNA and a minor one with ssDNA. The major class of complexes is formed with dsDNA, which is not specific with some preferred motifs, such as AA, AAG, or GAA, that increase the Tm. The minor complexes are formed with low melting **oligonucleotides** and the binding decreases the Tm. Duplexes with different A/T content have different properties both for shifts of Tm and for quenching of fluorescent signals, when in complexes with HU. The results obtained support the model that in the case of the A/T-rich duplexes, HU protein binds to each single strand of dsDNA, therefore, decreasing the Tm and quenching the fluorescent signal from this gel pad. HU protein does not have a strong binding specificity for ssDNA fragments, but the binding const. is higher in the case of G/C-rich sequences. The results demonstrate that generic microchips could be an efficient approach in anal. of sequence specificity of proteins.

ST protein **nucleic** acid interaction **microarray** **oligonucleotide**

IT Proteins
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(HU; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **DNA**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(duplexes, formed on immobilized **oligonucleotide**; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Fluorescent dyes
(for **nucleic** acid and protein interaction; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Molecular recognition
(immobilized; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **Double stranded RNA**
Oligodeoxyribonucleotides
Peptide nucleic acids
RL: ANT (Analyte); ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(immobilized; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Promoter (genetic element)
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(interaction with protein; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **Temperature**
(m.p. of **oligonucleotide**, anal. of; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Molecular association
(**nucleic** acid and protein interaction; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **Nucleic acid library**
(**oligonucleotide**; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **DNA**
RNA
RL: ANT (Analyte); ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(single-stranded, immobilized; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **DNA microarray technology**
(to detect **nucleic** acid and protein interaction; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Test kits
(use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT Proteins
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT **9003-05-8**
RL: BSU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(pad, **oligonucleotide** immobilized to; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

IT 469868-18-4 469888-19-5 469688-20-6 469924-74-1
RL: PRP (Properties)
(unclaimed sequence; use of generic **oligonucleotide** microchips to detect protein-**nucleic** acid interactions in massive parallel anal.)

L142 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:154612 HCAPLUS
DN 137:279964
TI methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR
IN Jamir, Yashitola; Sonti, Ramesh V.
PA Council of Scientific and Industrial Research, India
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-68
CC 11-4 (Plant Biochemistry)
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002077277	A2	20021003	WO 2001-IN42	20010326

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AB The invention relates to **DNA** markers specific to Wild Abortive (WA) cytoplasmic male sterile lines of rice, for assessing seed purity and a method for ensuring the purity of cytoplasmic male sterile lines of rice using the said **DNA** based markers. More specifically, it relates to using PCR methods to distinguish male sterile lines of rice from their cognate male fertile maintainer lines.
ST rice seed purity male sterility PCR **DNA** marker
IT Fluorescence resonance energy transfer
(PCR fragments detected by ELISA using; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT **Southern blot hybridization**
(PCR fragments detected by; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT Gel electrophoresis
(agarose or **polyacrylamide**, rice strains distinguished by sepn. of PCR fragments by; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT Antibodies
RL: AGS (Agricultural use); ARG (Analytical reagent use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(anti-digoxigenin or anti-fluorescein, for detection of PCR fragments; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT Chemicals
Light
Temperature effects, biological
(conditional male sterility induced by; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT Immunoassay
(enzyme-linked immunosorbent assay, PCR-, rice PCR fragments detected by; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT **Primers (nucleic acid)**
RL: AGS (Agricultural use); ARG (Analytical reagent use); PRP

(Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(for amplification of DNA markers; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT **Microsatellite DNA**
STS (sequence-tagged site)
RL: AGR (Agricultural use); ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(markers; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Breeding, plant
Crop (plant)
DNA sequences
Embryophyta
Genetic markers
Nucleic acid hybridization
PCR (polymerase chain reaction)
Rice (Oryza sativa)
Seed
Seedling
(methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT **DNA**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Population genetics
(mol., of rice strains; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT **PCR (polymerase chain reaction)**
(multiplex; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Allele frequency
(of impurities in rice strains; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(**oligonucleotide probes** for rice strain bound to support comprising; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Gamete and Germ cell
(plant, conditional male sterility induced by lethal effects on male; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Calorimetry
Fluorescence
Luminescence, Chemiluminescence
Radioactivity
(rice PCR fragments detected by; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Germination
(rice seed; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Genotypes
(rice strain; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Species differences
(rice; methods and DNA markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT **Mitochondrial DNA**

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(prime; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Pollen
(rice donor, assessing outcrossing with; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT Reproduction, plant
selection for male sterile rice strains; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 9001-07-0, Glucose oxidase 9001-78-9, Alkaline phosphatase 9031-11-2, Beta.-Galactosidase
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
PCR fragments detected by ELISA using; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 1672-46-4, Digoxigenin 2321-07-5, Fluorescein
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
PCR fragments labeled with; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT **9003-05-8, Polyacrylamide 9012-36-6**, Agarose
RL: SMP (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gel electrophoresis, rice strains distinguished by sepn. of PCR fragments by; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 9001-05-2, Peroxidase
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(horseradish, PCR fragments detected by ELISA using; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 4474[illegible]-83-6
RL: AGR (Agricultural use); ANT (Analyte); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**nucleotide** sequence; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 100-42-5, Styrene, uses 9003-53-6, Polystyrene
RL: DEV (Device component use); USES (Uses)
(**oligonucleotide probes** for rice strain bound to support comprising; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 464933-85-2 464939-36-4 464939-37-5
RL: AGR (Agricultural use); AFS (Analytical reagent use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(primer sequence; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 1239-45-8, Ethidium bromide
RL: PUR (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(rice PCR fragments stained using; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 7440-22-4, Silver, biological studies
RL: PUR (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(rice PCR fragments staining with; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

IT 464976-11-2 464976-12-3 464976-13-4 464976-14-5 464976-15-6
464976-16-7 464976-17-8 464976-18-9 464976-19-0 464976-20-3

RL: PRP (Properties)
(unclaimed **nucleotide** sequence; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)
IT 464976-21-4
RL: PRP (Properties)
(unclaimed sequence; methods and **DNA** markers for assessing seed purity of rice cytoplasmic male sterile lines using PCR)

L142 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:474817 HCAPLUS
DN 137:167871
TI Process for preparing peptide **nucleic** acid **probe** using polymeric photoacid generator
IN Kim, Min-hwan; Kim, Do-yun; Moon, Bong-seok; Park, Jae-chan; Kim, Young-hee; Koo, Seung-jae
PA S. Korea
SO U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U.S. 6,359,125.
CODEN: USXXCO
DT Patent
LA English
IC ICM C08F012-30
ICS C07B061-04
NCL 430270.1
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 34
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020172974	A1	20020905	US 2002-73071	20020207
	KR 2001001377	A	20010105	KR 1999-26899	19990607
	WO 2000076977	A1	20001214	WO 2000-KR630	20000607
	W: CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6759196	B1	20040713	US 2001-762611	20010207
PRAI	KR 1999-20939	A	19990607		
	WO 2000-KR630	W	20000607		
	US 2001-762611	A2	20010207		

AB The invention concerns a process for prepg. arrays of **oligopeptide** **nucleic** acid **probes** immobilized on a solid matrix by employing polymeric photoacid generator. Arrays of peptide **nucleic** acid **probes** of the invention are prepd. by the steps of: (i) derivatizing the surface of a solid matrix with aminoalkylsilane in alc. and attaching a linker with acid-labile protecting group on the solid matrix; (ii) coating the solid matrix with polymeric photoacid generator PAG); (iii) exposing the solid matrix thus coated to light to generate acid for eliminating acid-labile protecting group; (iv) washing the solid matrix with alk. soln. or org. solvent and removing residual polymeric photoacid generator; and, (v) attaching a monomeric peptide **nucleic** acid with acid-labile protecting group to the solid matrix, and repeating the previous steps of (ii) to (v). In accordance with the present invention, neutral peptide **nucleic** acid **probes**, as the promising substitute for conventional neg.-charged **oligonucleotide probes**, can be prepd. by employing polymeric photoacid generator in a simple and efficient manner, while overcoming the problems confronted in the prior art **DNA** chip fabrication using PR system and PPA system.
ST peptide **nucleic** acid immobilization **probe** polymer photoacid generator
IT Protective groups
(acid-labile; process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)

IT Solvents
(resistance to; process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT **Probes (nucleic acid)**
RL: BIOL (Properties); SPN (Synthetic preparation); PREP (Preparation)
(peptide; process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT Acetyl group
Amine group
Caps
Coating materials
Functional groups
Heating
Immobilization, molecular
Light
Photomasks (lithographic masks)
Protein microarray technology
Washing
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT Glass, uses
Polymers, uses
RL: DEV (Device component use); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT Acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT **Peptide nucleic acids**
RL: PEP (Synthetic preparation); PREP (Preparation)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT 453[illegible]-[illegible]-1P 4[illegible]-[illegible]-1P [illegible]-[illegible]-[illegible]P 453530-86-4P
RL: ARU (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT **79-06-1, Acrylamide**, uses 7440-21-3, Silicon, uses 9002-84-0, Polyethylene 9003-07-0, Polypropylene 9011-14-7, Polymethylmethacrylate
RL: DEV (Device component use); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT 4[illegible]-[illegible]-[illegible]P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT 3[illegible]-[illegible]-1, Triphenylmethyl 3652-65-5, Benzoyl
RL: NUU (Other use, unclassified); USES (Uses)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)
IT [illegible]-[illegible]-4, Thymine [illegible]-22-8, Uracil, reactions **71-30-7**, Cytosine **73-24-5**, Adenine, reactions **73-40-5**, Guanine
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for prepg. peptide **nucleic** acid **probe** using polymeric photoacid generator)

L142 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:[illegible] HCAPLUS
TI Use of a lab-on-a-chip based system for protein analysis
AU Bartmaier, Peter; Huschel, Meike; Neumann, Tanja; Kratzmeier, Martin

CS **Agilent Technologies, Palo Alto, CA, 94304, USA**
SO American Biotechnology Laboratory (2002), 20(9), 44, 46
CODEN: ABLAEY; ISSN: 0749-3223
PB International Scientific Communications, Inc.
DT Journal
LA English
CC **9** (Biochemical Methods)
AB The Agilent 2100 bioanalyzer uses lab-on-a-chip technol. for the anal. of proteins, providing information on size, concn., and purity in a single assay. The performance of the system in terms of sizing, sensitivity, linear dynamic range, and resoln. is comparable or even superior to conventional sodium dodecyl sulfate-**polyacrylamide** gel electrophoresis, with greatly reduced anal. times. The bioanalyzer can also analyze DNA and RNA, and allows for simple flow cytometric anal. of cell fluorescent parameters using a vacuum-driven flow. In combination with the Protein 200 Plus LabChip kit, the bioanalyzer can be used to analyze various protein samples such as cell lysates, column fractions, antibodies, and purified proteins.
ST protein bioanalyzer proteomics genomics
RE.CNT : THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bartenhaler, B; Application note 2001
(2) Burns, M; Proc Natl Acad Sci USA 1996, V93, P5556 HCAPLUS
(3) Eickhoubser, J; Anal Chem 1994, V66, P2949 HCAPLUS
(4) Muller, C; Electrophoresis 2000, V21 1-, P123
(5) Ogura, N; Clin Chem 1998, V44(11), P2319 HCAPLUS
(6) Sebastian, P; Application note 2001
(7) Woolley, A; Anal Chem 1995, V67, P3676 HCAPLUS
(8) Woolley, A; Proc Natl Acad Sci USA 1994, V91, P11348 HCAPLUS

L142 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:102519 HCAPLUS
DN 137:70456
TI Helicobacter pylori antigens in blood
IN Yi, Ching-Hui A.; Hung, Chung-ho
PA USA
SO U.S. Pat. Appl. Publ., 18 pp., Cont.-in-part of U.S. Ser. No. 572,598.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07K014-35
ICS C07K016-40
NCL 435007.35
CC **9-16** (Biochemical Methods)
Section cross-reference(s): 3, 10, 11, 15
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US [illegible]	A1	20011211	US 2002-41510	20020110
PRAI US [illegible]	P	19991214		
US [illegible]	A2	20000517		

AB The present invention relates to the finding and detection of Helicobacter pylori H. pylori antigens in blood of infected individuals. The H. pylori antigens are components of H. pylori cells which include, but not limited to **DNA, RNA,** and fragments of **nucleotides,** proteins or peptides. H. pylori **DNA, RNA,** and fragments of **nucleotides** can be detected by polymerase chain reaction (PCR), ligase chain reaction (LCR), or **DNA hybridization** methods or other amplification methods. H. pylori proteins or peptides or other antigenic components thereof can be detected by immunoassays or immunoblot using an antibody against H. pylori, preferably an antibody purified by an affinity column. The present invention further provides immunoassay methods, diagnostic

kits, and an immunochromatog. assay device for detection of Helicobacter pylori antigens in serum samples.

ST Helicobacter pylori antigen blood

IT Milk
(Bovine; Helicobacter pylori antigens in blood)

IT **Nucleic acid hybridization**
(**DNA-DNA**; Helicobacter pylori antigens in blood)

IT Affinity chromatography
Animal
Blood analysis
Blood serum
Candida cylindracea
Carriers
Cattle
Columns and Towers
Concentration (condition
Detergents
Diagnosis
Dialysis
Dilution
Dissociation
Filtration
Fluorescent indicators
Gel electrophoresis
Goat
Helicobacter pylori
Horse (Equus caballus)
Human
Immunoassay
Isotope indicators
Labels
Liquid chromatography
Luminescent substances
Membranes, nonbiological
Nucleic acid hybridization
PCR (polymerase chain reaction)
Particles
Samples
Solids
Solutions
Swine
Temperature
Test kits
pH
(Helicobacter pylori antigens in blood)

IT Antigens
DNA
Nucleic acids
Nucleotides, analysis
Peptides, analysis
Proteins
RNA
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(Helicobacter pylori antigens in blood)

IT Antibodies
Enzymes, uses
Probes (nucleic acid)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(Helicobacter pylori antigens in blood)

IT Reagents
RL: ARG (Analytical reagent use); ARU (Analytical role, unclassified); ANST (Analytical study); USES (Uses)

(Helicobacter pylori antigens in blood)
IT Albumins, analysis
Caseins, analysis
Gelatins, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(Helicobacter pylori antigens in blood)
IT Genetic methods
(Ligase chain reaction; Helicobacter pylori antigens in blood)
IT Amplification, genetic
(amplification; Helicobacter pylori antigens in blood)
IT Immunoassay
(agg., immunochromatog.; Helicobacter pylori antigens in blood)
IT Latex
(blue; Helicobacter pylori antigens in blood)
IT Denaturants
(chaotropic; Helicobacter pylori antigens in blood)
IT Immunoassay
(enzyme-linked immunosorbent assay; Helicobacter pylori antigens in blood)
IT Immunoassay
(immunoaffinity chromatog.; Helicobacter pylori antigens in blood)
IT Immunoassay
(immunoblotting; Helicobacter pylori antigens in blood)
IT Solvents
(org.; Helicobacter pylori antigens in blood)
IT Color
(particle; Helicobacter pylori antigens in blood)
IT Albumins, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(serum; Helicobacter pylori antigens in blood)
IT 5,1-21-1, Luminol 1331-07-5, Fluorescein 7440-22-4, Silver, uses
7440-53-1, Europium, uses 7440-57-5, Gold, uses 7782-49-2, Selenium,
uses 9001-60-1, Lipase 9001-75-6, Pepsin 9001-78-9, Alkaline
phosphatase 9001-92-7, Protease 9001-97-7, Trypsin 9004-08-8,
Lipoprotein lipase 9004-07-3, Chymotrypsin 9014-01-1, Subtilisin
12586-21-1 17373-71-3, Acridinium 60676-48-5, V8 Protease
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(Helicobacter pylori antigens in blood)
IT 50-01-1, Guanidine hydrochloride **57-13-6, Urea,**
analysis 83-44-3, Deoxycholic acid 107-21-1, Ethylene glycol, analysis
123-91-1, Dioxane, analysis 151-21-3, Sodium dodecyl sulfate, analysis
333-20-0, Potassium thiocyanate 7447-40-7, Potassium chloride (KCl),
analysis 7647-14-5, Sodium chloride (NaCl), analysis 7732-18-5, Water,
analysis 9002-84-0, Polyethylene 9003-53-6, Triton X-100 9003-07-0,
Polypropylene 9003-53-6, Polystyrene **9004-70-0**, Nitrocellulose
9005-64-5, Tween 20 23336-26-8, Octylglucoside
RL: ARG (Analytical reagent use); ANST (Analytical study)
(Helicobacter pylori antigens in blood)
IT 9003-99-0, Peroxidase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(horseradish; Helicobacter pylori antigens in blood)

L142 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:15944 HCAPLUS
DN 136:24>973
TI Dynamic coating with linear polymer mixture for electrophoresis
IN Tan, Hongdong Roy; Sassi, Alexander; Cruzado, Ingrid
PA Applera Biosciences, Inc., USA
SO U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G01N027-26

ICS G01N027-447
NCL 204454000
CC 9-1 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002042096	A1	20020314	US 2001-847780	20010501
PRAI	US 2000-915975P	P	20000901		

AB The invention concerns devices, compns. and methods for performing capillary electrophoresis using a compn. comprising in combination in an aq. buffered medium a coating polymer and a sieving polymer, where the sieving polymer is more hydrophilic than the coating polymer and is present in greater amt. Of particular interest are uncrosslinked **acrylamide** polymer mixts. for coating plastic channels and providing sieving for performing **DNA** sepns. in microfluidic devices. **Polyacrylamide** or N,N-di-Me **acrylamide** is used with a N,N-dialkyl **acrylamide** copolymer, either sep. or together for sieving and coating, serving as the medium in capillary electrophoresis **DNA** sepns.

ST electrophoresis app polymer sieving coating **DNA** sepn microfluid

IT Analytical apparatus
Capillary electrophoresis
Coating materials
DNA sequences
Fermentation
Electrophoresis apparatus
Microarray technology
Separation
Sieving
Temperature
(dynamic coating with linear polymer mixt. for electrophoresis)

IT Polymers, uses
Polyolefins
RL: DEV (Device component use); PEP (Properties); USES (Uses)
(dynamic coating with linear polymer mixt. for electrophoresis)

IT **DNA**
RL: PEP (Properties); PUR (Purification or recovery); PREP (Preparation)
(dynamic coating with linear polymer mixt. for electrophoresis)

IT Fluids
(microfluids; dynamic coating with linear polymer mixt. for electrophoresis)

IT 77-86-1, Tris 11129-12-7, Borate 26915-38-6, TAPS
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(dynamic coating with linear polymer mixt. for electrophoresis)

IT **79-06-1D, Acrylamide**, derivs. **79-39-0**,
Methacrylamide 9011-14-7, Polymethylmethacrylate 11181-36-19-4
RL: DEV (Device component use); PEP (Properties); USES (Uses)
(dynamic coating with linear polymer mixt. for electrophoresis)

IT 1687-44-3, N,N-Diethyl **acrylamide** 2680-03-7P, N,N-Dimethyl **acrylamide**
RL: PEP (Properties); PUR (Purification or recovery); PREP (Preparation)
(dynamic coating with linear polymer mixt. for electrophoresis)

IT 308378-86-5
RL: PEP (Properties)
(unclaimed sequence; dynamic coating with linear polymer mixt. for electrophoresis)

L142 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN **2002:114028** HCAPLUS
DN **136:162307**
TI GC-clamp containing **probes** for solution-based detection of DNA sequence variation using a double-stranded DNA binding dye and

fluorescence melting profiles
IN Eleuterio-Johnson, Rojo S. J.
PA Arup Institute, USA
SO U.S., 16 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-6
ICS C12P019-34; 301N03-00
NCL 435/006.06
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6346386	B1	20020212	US 2000-677049	20000929
	EP 1195443	A1	20020410	EP 2001-308117	20010925

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRAI US 2000-677049 A 20000929

AB A method for detg. whether a DNA sequence is identical to a wild-type sequence is presented. A GC-rich DNA segment is attached to a DNA segment of interest. With the GC-clamp attached, the DNA segment of interest has two melting domains, a higher domain assocd. with the GC-clamp and a lower domain assocd. with the DNA segment of interest. The DNA segment of interest is labeled with a fluorescent label such as a double-stranded DNA binding dye and mixed with a denaturant. The mixt. of denaturant and fluorescently labeled DNA is heated. Fluorescence is monitored to det. the m.p. of the DNA segment of interest. The melting **temp.** of the DNA segment of interest is compared to the m.p. of the wild-type sequence. A difference in melting **temps.** of the DNA sequence and the wild-type sequence indicates an alteration in the DNA sequence. In a presently preferred embodiment, some homozygous mutations may be better detected by combining approx. equal parts of the DNA segment of interest with equal parts of the wild-type sequence to create a heteroduplex. The heteroduplex is fluorescently labeled and mixed with a denaturant. The mixt. is heated while monitoring fluorescence to det. the m.p. of the heteroduplex. A difference in melting **temps.** of the heteroduplex and the wild-type sequence indicates an alteration in the DNA sequence. Use of the method is demonstrated by detection of mutation in the N-ras gene.

ST mutation detection thermal denaturation DNA intercalating dye fluorometry
IT Denaturation
(DNA, thermal; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT **Oligonucleotides**
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(GC clamp, **hybridization probes** contg.; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(GC clamp-contg.; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT Fluorometry
Nucleic acid hybridization
(GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)

IT Gene, animal
RL: RSU (Biological study, unclassified); BIOL (Biological study)
(N-ras, detection of mutation in; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT Intercalation
agents, fluorescent dyes; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT Genetic polymorphism
Mutation
detection; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT Fluorescent dyes
(intercalating; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT 1239-45-8, Ethidium bromide 17276-09-2, Yo pro 1 163795-75-3, SYBR Green I
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(as intercalating dye; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT **57-13-6, Urea**, analysis
RL: ARU (Analytical role, unclassified); MOA (Modifier or additive use); ANST (Analytical study); USES (Uses)
(as nucleic acid denaturant; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using dsDNA-binding dye and fluorescence melting profiles)
IT 396237-69-0 396238-70-3 396239-71-4, 7: PN: WO9946396 SEQID: 3 unclaimed DNA 396241-72-5 396242-73-6 396243-74-7 396244-75-8 396245-76-9 396246-77-0
RL: PRP (Properties)
(unclaimed nucleotide sequence; GC-clamp contg. **probes** for soln.-based detection of DNA sequence variation using a double-stranded DNA binding dye and fluorescence melting profiles)
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bohling; Laboratory Investigation 1999, V79(3), P337 MEDLINE
(2) Carl, T; Bio Techniques 1997, V22(1), P158
(3) Elaine, L; Molecular Diagnosis 1998, V3(1), P35
(4) Fischer, S; Proc Natl Acad Sci USA 1979, V76, P1979 HCAPLUS
(5) Guldberg; Biotechniques 1994, V16(2), P274 HCAPLUS
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(7) Roger, M; Journal of Chromatography A 1998, V806, P169
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(9) Sandra, O; American Journal of Pathology 1999, V154(2), P97
(10) Sandra, O; Laboratory Investigation 1998, V78(4), P387
(11) Sheffield, V; Proc Natl Acad Sci USA 1989, V86, P232
(12) Soren, S; Genome Research 1999, P?
(13) Wittwer; US 6174670 B1 2001 HCAPLUS
(14) Wittwer, C; Bio Techniques 1997, V22(1), P176 HCAPLUS

L142 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:90568 HCAPLUS
DN 136:131207
TI Microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium
IN Mehta, Tanoy Burd
PA USA
SO U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO

DT Patent
LA English
IC ICM C12Q001-68
ICS C12P019-34; C12M001-34
NCL 435091.2
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020119471	A1	20020131	US 2001-792297	20010223
PRAI	US 2000-184776P	P	20000320		

AB Sieving mediums comprising less than about 0.5% polymer, less than about 0.4% polymer, and 0.35% polymer or less are used to perform **nucleic** acid seprns. and PCR. The low polymer concn. does not inhibit PCR reactions and is sufficient for performing **nucleic** acids seprns. Microfluidic devices are used to perform **nucleic** acids seprns. and PCR reactions in the sieving mediums described.

ST microfluidic device PCR **nucleic** acid sieving medium

IT **Primers (nucleic acid)**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(**DNA**; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Apparatus
(microfluid device; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Electrophoresis
Nucleic acid hybridization
PCR (polymerase chain reaction)
Sieving
Thermal cycling
(microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT **Nucleotides, biological studies**
Polynucleotides
Proteins
RNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Polyoxyalkylenes, biological studies
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Fluids
(microfluids, device; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Solutions
(polymer; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT **DNA**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(primer; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT **Nucleic acids**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(seprn.; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT Polymers, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(soln.; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT **DNA**
RL: BSU (Biological study, unclassified ; BIOL (Biological study)
(template; microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT 9012-90-2, **DNA** polymerase 7727-22-0, Magnesium ion,
biological studies
RL: BSU (Biological study, unclassified ; BIOL (Biological study)
(microfluidic devices comprising a PCR compatible **nucleic** acid sieving medium)

IT **79-06-1, Acrylamide**, biological studies 79-10-7,
Acrylic acid, biological studies **9003-05-8,**
Polyacrylamide 9004-34-6, Hydroxycellulose, biological
studies **9004-62-0**, Hydroxyethyl cellulose **9004-67-5,**
Methyl cellulose **9012-36-6**, Agarose 25322-68-3, Polyethylene
oxide 26780-96-1, Polydimethyl **acrylamide**
RL: BSU (Biological study, unclassified); DEV (Device component use); BIOL
(Biological study); USES (Uses)
(microfluidic devices comprising a PCR compatible **nucleic**
acid sieving medium)

L142 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2001 ACS
AN **2001:729523** HCAPLUS
DN **136:364313**
TI Solution-based scanning for single-base alterations using a
double-stranded **DNA** binding dye and fluorescence-melting
profiles
AU Li-Sucholeiki, Pipe S. T.; Bohling, Sandra D.
CS Department of Pathology, University of Utah School of Medicine, Salt Lake
City, UT, 84132, USA
SO American Journal of Pathology (2001), 159(3), 845-853
CODEN: AJPAA4; ISSN: 0002-9440
PB American Society for Investigative Pathology
DT Journal
LA English
CC **3-1** (Biochemical Genetics)
Section cross-reference(s): **9**
AB **DNA** mols. differing by as little as a single-base substitution
have traditionally been distinguished by gel electrophoresis-based
methodologies that exploit differences in the sequence-specific properties
of double-stranded **DNA** (dsDNA) such as melting **temp.**
and secondary conformational configuration. By comparison, soln.-based
fluorescence methods using sequence-specific **probes** are limited
to detecting mutations restricted to very short segments of **DNA**
(approx.20 bp). We describe a soln.-based fluorescence method that
discriminates between wild-type and mutant sequences using a dsDNA binding
dye, and interrogates a region of 200 **nucleotides**. This method
is based on melting theory and entails fluorescence monitoring of the
melting **temps.** of GC-clamped amplicons subjected to gradual and
progressive thermal denaturation in the presence of a const. concn. of
urea. Heterozygous samples are easily identified by the lower
melting **temps.** of the less thermodynamically stable heteroduplex
mismatches from the wild-type:mutant **DNA hybrids** as
compared to the more stable wild-type Watson-Crick duplexes. All of the
four possible sets of mismatches (A.cntdot.G/T.cntdot.C,
T.cntdot.G/A.cntdot.C, A.cntdot.C/T.cntdot.C, and T.cntdot.T/A.cntdot.A)
represented in 17 heterozygous mutations distributed throughout the length
of 20 different amplicons (104 to 212 bp), were distinguished from the
wild-type by their altered melting profiles. This methodol. is
advantageous in that it obviates gel electrophoresis or labeled
oligonucleotide probes. Significantly, it expands the
region of interrogation for detection of single-base changes using

fluorescence-based methods in soln., and is amenable for automation and adaptation to high-throughput systems.

ST fluorescence melting curve analysis point mutation **DNA** soln; mutation scanning **temp** ramping **urea** denaturation; nRas factor V gene mutation

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(N-ras; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **DNA**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(double-stranded; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Diagnosis
(lab., of mutations in **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **Melting point**
(of **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT High throughput screening
(of mutations in **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Mutation
(point; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Fluorescence
Nucleic acid hybridization
PCR (polymerase chain reaction)
(soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **Primers (nucleic acid)**
Probes (nucleic acid)
RL: AFS (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **57-13-6, Urea**, biological studies
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(denaturing dsDNA using; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT 163795-75-3, SYBR Green I
RL: AFS (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(double-stranded **DNA** binding dye; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and

fluorescence-based methods in soln., and is amenable for automation and adaptation to high-throughput systems.

ST fluorescence melting curve analysis point mutation **DNA** soln; mutation scanning **temp** ramping **urea** denaturation; nRas factor V gene mutation

IT Gene, animal
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(N-ras; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **DNA**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(double-stranded; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Diagnosis
(mol., of mutations in **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **Melting point**
(of **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT High throughput screening
(of mutations in **DNA**; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Mutation
(point; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT Fluorescence
Nucleic acid hybridization
PCR (polymerase chain reaction)
(soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **Primers (nucleic acid)**
Probes (nucleic acid)
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT **57-13-6, Urea**, biological studies
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(denaturing dsDNA using; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)

IT 163795-75-3, SYBR Green I
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(double-stranded **DNA** binding dye; soln.-based point mutation scanning of N-ras and Factor V genes by **temp**. ramping and chem. denaturation using double-stranded **DNA** binding dye and

fluorescence-melting profiles)
IT 9001-24-5, Blood-coagulation factor V
RL: BSU Biological study, unclassified ; BIOL (Biological study)
(gene for; soln.-based point mutation scanning of N-ras and Factor V genes by **temp.** ramping and chem. denaturation using double-stranded **DNA** binding dye and fluorescence-melting profiles)
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(29) Wyman, A; Proc Natl Acad Sci USA 1980, V77, P6754 HCAPLUS

L142 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:693053 HCAPLUS
DN 135:214342
TI Cross-reactive biosensor system for liquid analytes
IN Walt, David R.; Schauer, Caroline L.; Steemers, Frank J.
PA Trustees of Tufts College, USA
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N033-50
ICS G01N021/00; G01N033-566
CC **9-1** (Biochemical Methods)
Section cross-reference(s): 4

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001069243	A1	20010920	WO 2001-US8126	20010314
	WO 2001069243	A8	20020502		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 2000-183200P P 20000314

AB The present invention provides a novel cross-reactive sensor system utilizing cross-reactive recognition elements. In the inventive system, each of said one or more cross-reactive recognition elements is capable of interacting with more than one species of liq. analyte of interest, whereby each of said one or more cross-reactive recognition elements reacts in a different manner with each of said one or more species of liq. analytes of interest to produce a detectable agent of each analyte of interest, whereby said detectable agent is analyzed and the information is processed for data acquisition and interpretation. In certain preferred embodiments, the detectable agent and/or change is detected directly, while in certain other preferred embodiments, the detectable agent and/or change is detected with the help of a transducing agent capable of relaying information about each detectable agent generated for each of said species of liq. analyte of interest, whereby said information is processed for data acquisition and interpretation. The present invention also provides method for the anal. of analytes comprising contacting one or more analytes with the inventive system described above.

ST biosensor cross reactive recognition liq entrnase array microtiter plate

IT Biosensors
(acoustic plate mode; cross-reactive biosensor system for liq. analytes)

IT Physical properties
(adiabatic change; cross-reactive biosensor system for liq. analytes)

IT Receptors
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(ana-clefts; cross-reactive biosensor system for liq. analytes)

IT Metacyclophanes
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(calixarenes; cross-reactive biosensor system for liq. analytes)

IT Inclusion compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(carcerands; cross-reactive biosensor system for liq. analytes)

IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(carcerands; cross-reactive biosensor system for liq. analytes)

IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cavitands, dimers; cross-reactive biosensor system for liq. analytes)

IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cavitands; cross-reactive biosensor system for liq. analytes)

IT Sensors
(chemo; cross-reactive biosensor system for liq. analytes)

IT Inclusion compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cryptaplexes; cross-reactive biosensor system for liq. analytes)

IT Acoustic transducers
Amperometry
Biosensors
Computer application
Conductometry
Crosslinking agents
DNA microarray technology
Electric impedance
Fiber optics
Fluorescence
Heat
IR spectroscopy

Immobilization, biochemical
Luminescence, chemiluminescence
Micelles
Microliter plates
Molecular recognition
Nanotubes
Potentiometry
Process control
SERS (Raman scattering)
Spectrometers
Sprayers
Stripping potentiometry
Surface acoustic wave
Transducers
Virus
pH
(cross-reactive biosensor system for liq. analytes)

IT Amino acids, analysis
Esters, analysis
RL: ANT (Analyte); ANST (Analytical study)
(cross-reactive biosensor system for liq. analytes)

IT Peptides, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cross-reactive biosensor system for liq. analytes)

IT Calixarenes
Chlorophylls, uses
Crown ethers
Cryptands
Cyclophanes
DNA
Enzymes, uses
Fibers
Polymers, uses
Porphyrins
Proteins, general, uses
RNA
Receptors
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cross-reactive biosensor system for liq. analytes)

IT **Oligonucleotides**
Peptides, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cyclic; cross-reactive biosensor system for liq. analytes)

IT Aggregates
(discrete; cross-reactive biosensor system for liq. analytes)

IT Conformers
(double and triple helicates; cross-reactive biosensor system for liq. analytes)

IT Transducers
(electrochem.; cross-reactive biosensor system for liq. analytes)

IT Luminescence, chemiluminescence
(electrogenerated; cross-reactive biosensor system for liq. analytes)

IT Immobilization, biochemical
(enzyme; cross-reactive biosensor system for liq. analytes)

IT Biosensors
Hydrolysis
(enzymic; cross-reactive biosensor system for liq. analytes)

IT Biosensors
(flexural plate mode; cross-reactive biosensor system for liq. analytes)

IT Inclusion compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(hemicarceplexes; cross-reactive biosensor system for liq. analytes)
IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(hemicarcerands; cross-reactive biosensor system for liq. analytes)
IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(hemispherands, crypta-; cross-reactive biosensor system for liq. analytes)
IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(hemispherands; cross-reactive biosensor system for liq. analytes)
IT Macrocyclic compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(lactams; cross-reactive biosensor system for liq. analytes)
IT Bicyclic compounds
Cyclic compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(macro; cross-reactive biosensor system for liq. analytes)
IT Lactams
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(macrocyclic; cross-reactive biosensor system for liq. analytes)
IT **Analytical apparatus**
Microanalysis
(**microarray**; cross-reactive biosensor system for liq. analytes)
IT Microscopy
Spectroscopy
(near-field; cross-reactive biosensor system for liq. analytes)
IT Transducers
(optical; cross-reactive biosensor system for liq. analytes)
IT Dyes
(pH sensitive; cross-reactive biosensor system for liq. analytes)
IT Sensors
(phosphorescent, chemo; cross-reactive biosensor system for liq. analytes)
IT Amines, analysis
RL: ANT (Analyte); ANST (Analytical study)
(primary; cross-reactive biosensor system for liq. analytes)
IT Surface plasmon
(resonance; cross-reactive biosensor system for liq. analytes)
IT Enzymes, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(self-assembling; cross-reactive biosensor system for liq. analytes)
IT Ligands
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(spherands; cross-reactive biosensor system for liq. analytes)
IT Transducers
(thermal; cross-reactive biosensor system for liq. analytes)
IT Biosensors
(thickness shear mode; cross-reactive biosensor system for liq. analytes)
IT Electrochemical cells
(transducers; cross-reactive biosensor system for liq. analytes)
IT Surface waves
(transverse; cross-reactive biosensor system for liq. analytes)
IT Polycyclic compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(tricyclic, macro; cross-reactive biosensor system for liq. analytes)
IT Dimers
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(veloraplexes; cross-reactive biosensor system for liq. analytes)
IT 52872-98-6, BCPCF acid
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(BCECF acid; cross-reactive biosensor system for liq. analytes)
IT 192564-29-8, LysoSensor Green DND 189
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(LysoSensor Green DND 189; cross-reactive biosensor system for liq. analytes)
IT 229682-14-1, LysoSensor Yellow/Blue DND 160
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(LysoSensor Yellow/Blue DND 160; cross-reactive biosensor system for liq. analytes)
IT 9001-92-7, Protease
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(Staphylococcus aureus V8; cross-reactive biosensor system for liq. analytes)
IT 56-86-0, L-Glutamic acid, analysis 60-31-1, Acetylcholine chloride
93-58-3, Methyl benzoate 93-60-7, Methyl nicotinate 93-89-0, Ethyl benzoate 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 106-70-7, Propyl butyrate 109-60-4, Propyl acetate 122-79-2, Phenyl acetate 141-78-6, Ethyl acetate, analysis 539-82-2, Ethyl valerate 540-18-8, tert-Butyl acetate 623-42-7, Methyl 3-methylbutyrate 868-57-5, Methyl 2-methyl butyrate 1068-11-1, 2-Naphthol acetate 4630-80-4, Methyl cyclohexanecarboxylate 4170-30-3, Methyl 6-methyl nicotinate 13965-03-2, D-Alanine methyl ester 17firm-13-6, D-Alanine methyl ester 31052-43-7, Methyl 2-methyl glycolate
RL: ANT (Analyte); ANST (Analytical study)
(cross-reactive biosensor system for liq. analytes)
IT **57-13-6D, Urea**, derive., uses 443-79-8,
p-Phthalaldehyde 4431-57-6, Fluorescein 635-69-6 9040-41-1, Acetylcholine esterase 9001-08-4, Papain 9004-07-3, Chymotrypsin 9013-20-1, Isomerase 9014-08-4, Esterase 9014-01-1, Subtilisin 9016-58-6, Enzyme 9026-08-0, Cholesterol esterase 9067-41-2, hydrolase 9031-56-5, ligase 9047-01-6, transferase 9055-15-6, oxido-reductase 11071-17-5, Carboxypeptidase A 12619-70-4, Cyclodextrin 148-32-06-9 26009-03-0 32430-01-5, Proteinase K 37288-54-3, Carboxyfluorescein 4511a-14-4, BCECF 134544-30-0 138612-71-8, BODIPY 153267-06-5, JNARE
RL: AFS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cross-reactive biosensor system for liq. analytes)
IT 7782-44-7, Oxygen, analysis
RL: AFF (Analytical role, unclassified); ANST (Analytical study)
(cross-reactive biosensor system for liq. analytes)

L142 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:[illegible] HCAPLUS
DN 133:[illegible]
TI Protein-based macroporous polymer pads for biological assay supports
IN Chiong, Yi-En; Shi, Jong; Manabas, George
PA Motorola, Inc., USA
SO PCT Int. Appl., 18 pp.
CODEN: PIXD2
DT Patent
LA English
IC ICM B01J019-00
ICS C12Q001-68; B01D039-14; F26B005-04
CC 9-1 (Biochemical Methods
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001034292	A2	20010517	WO 2000-US42053	20001110
	WO 2001034292	A3	20011220		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,

LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1137806 A2 20010927 EP 1999-963136 19991110

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, IE, SI, LT, LV, FI, RO, MK, CY, AL

PRAI US 1998-108009P A 19981112

WO 1999-US26412 W 19991110

AB This invention relates to the improvement of arrays of porous polymer pads or solid supports used in biol. assays. The invention involves freeze drying the porous polymer pads to increase pore size. The increased pore size results in an enhanced ability of the porous polymer pads to bind specific binding substances such as **DNA**, **RNA** and polypeptides.

ST macroporous polymer pad freeze dried bioassay support; pore size polymer pad support bioassay

IT **Nucleic acid hybridization**
DNA-DNA; (freeze-dried macroporous polymer pads for biol. assay supports)

IT **Biotechnology**
(**biochips**, array; freeze-dried macroporous polymer pads for biol. assay supports)

IT Bioassay
Pharmacometry
Freeze drying
Pore size
(freeze-dried macroporous polymer pads for biol. assay supports)

IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(freeze-dried macroporous polymer pads for biol. assay supports)

IT Polymers, reactions
RL: DEV (Device component use); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(freeze-dried macroporous polymer pads for biol. assay supports)

IT Chromosome
(human Y, segment of gene from, as target; freeze-dried macroporous polymer pads for biol. assay supports)

IT **DNA**
Peptides, reactions
Polynucleotides
Proteins, general, reactions
RNA
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(immobilization of; freeze-dried macroporous polymer pads for biol. assay supports)

IT Vacuum
(in freeze-drying; freeze-dried macroporous polymer pads for biol. assay supports)

IT Porous materials
(macroporous; freeze-dried macroporous polymer pads for biol. assay supports)

IT Immobilization, biochemical
(of specific binding substances; freeze-dried macroporous polymer pads for biol. assay supports)

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**oligonucleotides** labeled at 5'-end with; freeze-dried

macroporous polymer pads for biol. assay supports)
IT Pressure
(reduced, in freeze-drying; freeze-dried macroporous polymer pads for biol. assay supports)
IT Gene, animal
RL: ANT (Analyte); ANST (Analytical study)
(segment of, of human Y chromosome, as target; freeze-dried macroporous polymer pads for biol. assay supports)
IT Microscopes
(slides; freeze-dried macroporous polymer pads for biol. assay supports)
IT 3395[illegible]-5[illegible]-4
RL: APS (Analytical reagent use); PEP (Properties); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(as **DNA probe**; freeze-dried macroporous polymer pads for biol. assay supports)
IT **79-06-1DP, Acrylamide**, bisacrylamide-aldehyde derivs.
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(freeze-dried macroporous polymer pads for biol. assay supports)
IT 2530-[illegible]-[illegible]
RL: RCT (Reactant); RACT (Reactant or reagent)
(microscope slides derivatization with; freeze-dried macroporous polymer pads for biol. assay supports)
IT 146368-[illegible]-[illegible], Cy3
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(gene, control **oligonucleotide** labeled at 3'-end with; freeze-dried macroporous polymer pads for biol. assay supports)

L142 ANSWER 1[illegible] OF 13 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:137461 HCAPLUS
DN 134:163[illegible]
TI Method and integrated apparatus with polymer stretching tapered channels and reagent system for conformation studies
IN Chan, Eugene Y.; Gleich, Lance C.; Wellman, Parris S.
PA U.S. Genomics, Inc., USA
SO PCT Int. Appl., 113 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C01N001-28
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3, 6
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2[illegible] 101568[illegible]	A1	20010222	WO 2000-US.2253	20000811
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1[illegible]10[illegible]7[illegible]	A1	1[illegible]0[illegible]5	EP 2000-955615	20000811
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRAI	US 1999-14[illegible]0[illegible]P	P	19990[illegible]6		
	WO 2000-US.2[illegible]53	W	20000811		

AB The present invention provides structures and methods that allow polymers of any length, including **nucleic** acids contg. entire genomes, to

be stretched into a long, linear conformation for further anal. The present invention also provides structures and methods for selecting and stretching polymers based on their lengths. Polymers are loaded into a device and run through the structures. Stretching is achieved by, e.g., applying shear forces as the polymer passes through the structures, placing obstacles in the path of the polymer, or a combination thereof. Since multiple mols. may be stretched in succession, extremely high throughput screening, e.g., screening of more than one mol. per s, is achieved.

ST polymer **DNA** stretching conformation biochip imaging app

IT Coliphage T4
(**DNA** of; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT **Biotechnology**
(**biochips**; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Fluorescent substances
(fluorophores, as labels; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Analytical apparatus
Buffers
Electric fields
Electrodes
Electrophoresis
Flow
Fluorescence microscopy
Fluorometry
Gels
Optical imaging devices
Pressure
Shear
Temperature
Viscosity
(method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT **DNA**
Nucleic acids
Polymers, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Conformation
(**nucleic** acid; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Pumps
(syringe pump; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Pipes and Tubes
(tapered channels, microchannels; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(viscosity-modifying component; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT 143411-85-4, YOYO-1
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)

IT 50-70-4, Sorbitol, uses 56-81-5, Glycerol, uses 57-50-1, Sucrose, uses 58-86-6, Xylose, uses **9003-05-8**, **Polyacrylamide** 25322-68-3, Polyethylene glycol

RL: NUU (Other use, unclassified); USES (Uses)
(viscosity-modifying component; method and integrated app. with polymer stretching tapered channel and imaging system for conformation studies)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bakajin; Physical Review Letters 1998, V80(12), P2737 HCAPLUS
(2) Kambara; US 5567779 A 1994 HCAPLUS
(3) Oetner; US 5846737 A 1998 HCAPLUS

L142 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:101764 HCAPLUS
DN 134:159833
TI Methods and apparatus for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing
IN Hood, Leroy; Ivanovich, Stevan
PA Molecular Dynamics, Inc., USA
SO PCT Int. Appl., 131 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-68
CC **9-1** (Biochemical Methods)
Section cross-reference(s): 3, 6
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001010898	A2	20010215	WO 2000-US21182	20000802
	WO 2001010898	A3	20010719		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6355430	B1	20020312	US 2000-577199	20000523
	EP 1208009	A2	20020529	EP 2000-952450	20000802
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRAI	US 1999-146722P	P	19990730		
	US 2000-577199	A	20000523		
	WO 2000-US21182	W	20000802		

AB Methods for prepg. nanoscale reactions using **nucleic** acids are presented. **Nucleic** acids are captured saturably, yet reversibly, on the internal surface of the reaction chamber, typically a capillary. Excess **nucleic** acid is removed and the reaction is performed directly within the capillary. Alternatively, the saturably bound **nucleic** acid is eluted, dispensing a metered amt. of **nucleic** acid for subsequent reaction in a sep. chamber. Devices for effecting the methods of the invention and a system designed advantageously to utilize the methods for high throughput **nucleic** acid sequencing reactions using capillary array electrophoresis are also provided.
ST submicroliter **DNA** sequencing capillary array electrophoresis
IT **Nucleotides, uses**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
2',3'-dideoxyribo-, triphosphates; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Archaebacteria (Archaea)
Bacteriophage
Eukaryote (Eukaryotae)
Plasmid vectors
Plasmids
Prokaryote
Virus
(**DNA** isolated from; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **Primers (nucleic acid)**
PL: AMB (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**DNA**, Dye-labeled; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Halides
PL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(tetraamine, for immobilizing **DNA** templet; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Apparatus
(air-based thermal cycling; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Genetic polymorphism
(amplified fragment length polymorphism; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Capillary electrophoresis
(array; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **Biotechnology**
(**biochips**, contg. capillary array; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Glass, biological studies
Metals, biological studies
Semimetals
PL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(channel; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Denaturants
(thermolytic, for immobilizing **DNA** templet; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA** formation
(chem. or enzymic; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **Thermal cycling**
(device for prepg. **nucleic** acid templates; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **Microsatellite DNA**
RL: BSU (Biological study, unclassified ; BIOL (Biological study)
(devices for anal. of; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis

IT Genotyping (method)
(devices for; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Fluorescent substances
(**dideoxynucleotide** triphosphates or primer conjugated with; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction)

IT **DNA**
RL: ANT (Analyte); ANST (Analytical study)
(double-stranded; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **PCR (polymerase chain reaction)**
(for prepg. **nucleic** acid templet; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA**
RL: ANT (Analyte); BPN (Biosynthetic preparation); ANST (Analytical study ; BIOL (Biological study ; PREP (Preparation)
(immobilized; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Capillary tubes
Nanotubes
(methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis

IT **DNA**
Nucleic acids
RL: ANT (Analyte); ANST (Analytical study
(methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis

IT **Deoxyribonucleoside triphosphates**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **Oligonucleotides**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **RNA**
RL: ANT (Analyte); ANST (Analytical study)
(mol. wt. distribution of; methods and app. for nanoscale **nucleic** acid template capture and normalization for

submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT Molecular weight distribution
(for **DNA**; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(primer, dye-labeled; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA microarray technology**
(sequencing from; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA**
RL: ANT (Analyte); ANST (Analytical study)
(single-stranded; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT **DNA** sequence analysis
(submicroliter; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT 64-17-5, Ethanol, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(70%, for washing **DNA**; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT 50-01-1, Guanidinehydrochloride 50-34-5, Tetramethylammonium chloride **57-13-6, Urea**, biological studies 67-68-5, Dimethylsulfoxide, biological studies 333-20-0, Potassiumthiocyanate 540-72-7, Sodium thiocyanate 593-84-0, Guanidine thiocyanate 650-51-1, Sodium trichloroacetate 7447-41-8, Lithiumchloride, biological studies 7601-89-0, Sodium perchlorate 7647-15-6, Sodium bromide, biological studies 7681-11-0, Potassium iodide, biological studies 7681-82-5, Sodium iodide, biological studies 7775-09-9, Potassium bromide, biological studies 7778-74-7, Potassium perchlorate 16686-14-4, Potassium trichloroacetate
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for immobilizing **DNA** templet; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT 9013-05-2, Phosphatase 9014-24-8, **RNA** polymerase 9031-44-1, Kinase 9031-56-9, Ligase 9033-03-2, Glycosidase 9033-25-4, Methylase 9059-11-2, Endonuclease 9068-38-6, Reverse transcriptase 9075-08-5, Restriction enzyme 37228-74-3, Exonuclease 81449-01-0, Topoisomerase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(for prepg. **DNA** templets; methods and app. for nanoscale **nucleic** acid template capture and normalization for submicroliter reaction and uses in submicroliter **DNA** sequencing for capillary array electrophoresis)

IT 9012-90-2, DNApolymerase

multiple **nucleic** acids)

IT Immobilization
(of primers on solid support through one or more covalent interactions; solid phase methods for amplifying multiple **nucleic** acids)

IT Solvents
(org., for denaturation of ds amplification mols.; solid phase methods for amplifying multiple **nucleic** acids)

IT Genetics
(pharmacogenetics; solid phase methods for amplifying multiple **nucleic** acids)

IT Disulfide bond
(reduction by DTT, TCEP, and .BETA.-mercaptoethanol; solid phase methods for amplifying multiple **nucleic** acids)

IT Genetic polymorphism
(single **nucleotide**; solid phase methods for amplifying multiple **nucleic** acids)

IT **DNA microarray technology**
Neoplasm
PCR (polymerase chain reaction)
(solid phase methods for amplifying multiple **nucleic** acids)

IT **Primers (nucleic acid)**
RL: BSN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(solid phase methods for amplifying multiple **nucleic** acids)

IT Test kits
(solid support bead comprising a set of primers; solid phase methods for amplifying multiple **nucleic** acids)

IT Alloys, biological studies
Glass, biological studies
Glass beads
Metals, biological studies
Plastics, biological studies
Polyamide fibers, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(solid support for primers; solid phase methods for amplifying multiple **nucleic** acids)

IT **Nucleic acid amplification (method)**
(stages of bridge amplification; solid phase methods for amplifying multiple **nucleic** acids)

IT **9004-54-0**, Dextran, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(crosslinked, solid support for primers; solid phase methods for amplifying multiple **nucleic** acids)

IT 9075-68-5, Restriction endonuclease
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in enzymic cleavage of primers; solid phase methods for amplifying multiple **nucleic** acids)

IT 25154-52-3, Nitrophenol
RL: ANU (Analytical use, unclassified); ANST (Analytical study)
(moiety of **oligonucleotide** primers; solid phase methods for amplifying multiple **nucleic** acids)

IT 71344-96-1, Acrylate, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(poly-, solid support for primers; solid phase methods for amplifying multiple **nucleic** acids)

IT 7631-86-9, Silica, biological studies **9003-05-8**, **Polyacrylamide**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(solid support for primers; solid phase methods for amplifying multiple **nucleic** acids)
IT 313021-76-4, 1: PN: WO0075374 SEQID: 1 unclaimed **DNA**
313021-77-5, 2: PN: WO0075374 SEQID: 2 unclaimed **DNA**
313021-78-6, 3: PN: WO0075374 SEQID: 3 unclaimed **DNA**
RL: PRP (Properties)
(unclaimed **nucleotide** sequence; solid phase methods for amplifying multiple **nucleic** acids)
IT 60-24-2, BBT, biological studies 60-24-2, .BETA.-Mercaptoethanol
6826-37-8, TCEP
RL: BMF (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(used for reduc. of disulfide bonds during primer cleavage; solid phase methods for amplifying multiple **nucleic** acids)
PE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Adams, C; US 5641628 A 1997 HCAPLUS
(2) Farinelli, L; WO 9844151 A 1998 HCAPLUS
(3) Mosaic Technologies; WO 9836094 A 1998 HCAPLUS
(4) Millis, R; US 6200159 A 1998 HCAPLUS

L142 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:645517 HCAPLUS
DN 133:219765
TI Method for photolytically deprotecting immobilized **nucleoside** derivatives, especially in the production of **DNA** chips
IN Stengele, Klaus-Peter; Giegrich, Heinreich
PA Biogu Chemie G.m.b.H., Germany
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM B01J019-00
ICS C07H021-00
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 34

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000051309	A1	20000914	WO 2000-EP1197	20000213
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	DE 10004400	A1	20000907	DE 2000-10004400	20000209
	EP 1159064	A1	20011205	EP 2000-911603	20000213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 20020058263	A1	20020516	US 2001-948537	20010910
PRAI	DE 1999-19911406	A	19990311		
	DE 1999-19953238	A	19991105		
	WO 2000-EP1197	W	20000213		

AB The invention relates to a method for the specific photolytic deprotection of **nucleoside** derivs. that are immobilized on a substrate, esp. for use in the prodn. of **DNA** chips. Said method is characterized in that a gel or viscous liq. layer is applied on the **nucleoside** derivs. that are immobilized on a substrate. Said gel or viscous liq. contains one or more polymer compds. and at least one

representative from the group comprising water, water/C1-C4 alc. mixts. and polar aprotic solvents. The gel also contains photo-accelerators and photosensitizers. For initiating the deprotection, the **nucleoside** derivs. are irradiated. The gel is applied on the top of the immobilized protected **DNA** layer by spin-coating. After the photolytic cleavage, the protective group and the gel with the reactants are removed in form of a liq. by heating the gel. This method favors a rapid, clean and complete removal of the photolabile protective groups from the **nucleoside** derivs., which results in the required purity of the **synthesized nucleotide** or **oligonucleotide** sequences.

ST **nucleoside** deprotection photolysis gel **DNA** chip

IT Alcohols, uses
RL: DEV (Other use, unclassified); USES (Uses)
(aliph., C1-C4; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Salts, uses
RL: DEV (Other use, unclassified); PEP (Properties); USES (Uses)
(alkali and earth-alkali; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Solvents
(aprotic; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT **Biotechnology**
(**biochips**; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Bond cleavage
Heating
Immobilization, biochemical
Photolysis
Protective groups
Sol-gel transition
Viscosity
(method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT **Nucleosides, uses**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Polymers, uses
Polyvinyl acetals
RL: DEV (Other use, unclassified); USES (Uses)
(method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Phenolic resins, uses
RL: DEV (Other use, unclassified); USES (Uses)
(novolak; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Catalysts
(photochem.; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT Coating process
(spin; method for photolytically deprotecting immobilized **nucleoside** derivs., esp. in prodn. of **DNA** chips)

IT 50-01-1, Guanidine hydrochloride 56-40-6, Glycine, uses **57-13-6**, **Urea**, uses 65-85-0, Benzoic acid, uses 65-85-0D, Benzoic acid, salts, uses 69-65-8, D-Mannitol 288-13-1, Pyrazole 616-47-7, 1-Methylimidazole 1185-53-1, Tris(hydroxymethyl)aminomethane hydrochloride
RL: CAT (Catalyst use); USES (Uses)
(method for photolytically deprotecting immobilized **nucleoside**

derivs., esp. in prodn. of **DNA** chips
IT 60-56-0, Thiourea, uses 77-86-1, Tris hydroxymethyl)aminomethane
288-32-4, Imidazole, uses
RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)
method for photolytically deprotecting immobilized **nucleoside**
derivs., esp. in prodn. of **DNA** chips
IT 50-81-7, L-Ascorbic acid, uses 67-68-5, Dimethylsulfoxide, uses
[illegible], uses 71-00-1, L-Histidine, uses 75-05-8, Acetonitrile, uses
872-50-4, 1,3-Dimethyl-2-imidazolidinone 108-32-7, Propylene carbonate
108-65-6, 1-Methoxy-2-propyl acetate 111-96-6, Diethylene glycol dimethyl
ether 112-49-2 112-34-5, Diethylene glycol monobutyl ether 127-19-5, Dimethylacetamide 143-24-8, Tetraethylene
glycol dimethyl ether 872-50-4, N-Methylpyrrolidone, uses 7440-37-1,
Argon, uses 7727-37-9, Nitrogen, uses **9000-07-1**, Carrageenan
9000-69-5, Pectin **9002-18-0**, Agar 9003-39-8,
Polyvinylalcohol 9003-98-6, Aziridine, homopolymer **9003-05-8**,
Polyacrylamide 9003-20-7, Polyvinylacetate 9003-39-8,
Polyvinylpyrrolidone **9005-32-7**, Alginic acid **9012-36-6**
, Agarose 11078-31-2, Galactomannan **11138-66-2**, Xanthan
26062-48-6, L-Histidine, homopolymer 26628-22-8, Sodium azide
(NaN3), Polyethylene 9002-88-4, 1,3-Dimethyltetrahydro-2-
pyrimidinone
RL: NUU (Other use, unclassified); USES (Uses)
method for photolytically deprotecting immobilized **nucleoside**
derivs., esp. in prodn. of **DNA** chips
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Brick, P; WO 9858734 A 1998 HCAPLUS
(2) McGall, G; J AM CHEM SOC 1996, V118(21), P5081
(3) Nam Ngoc, ; WO 9839094 A 1998 HCAPLUS

L142 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:664991 HCAPLUS
DN 132:16747
TI Surface regeneration of biosensors using a combination of solutions based on interaction-specific optimized processes
IN Andersson, Karl; Hamalainen, Markku; Malmqvist, Magnus; Roos, Hakan
PA Biacore AB, Swed.
SO PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-09
ICS C12N033-543; C12Q001-68; G06F019-00; G06F159-00
CC **9-1** Biochemical Methods
Section cross-reference(s): 3
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9956123	A1	19991104	WO 1999-SE721	19990501
W: AU, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6013440	B1	20000111	US 1998-87402	19980529
AU 9946656	A1	19991123	AU 1999-46656	19990501
EP 1076703	A1	20010221	EP 1999-933134	19990501
R: BE, CH, DE, FR, GB, LI, NL, SE, FI				
JP 2002513294	T2	20020508	JP 2000-552430	19990501
PRAI SE 1998-1710	A	19980529		
WO 1999-SE721	W	19990501		

AB Surface regeneration of affinity biosensors and characterization of biomols. assocd. therewith by multivariate technique employing cocktails of regeneration agents to optimize regeneration of biosensor surface and/or characterize biomols. assocd. therewith. Kits and stock solns. for

use in the context of this invention, as well as assocd. computer algorithms are also disclosed. Stock solns. of regeneration cocktails are prepd. and combined. Solns. are acidic, basic, ionic, org., detergent and chelating agent contg. Biosensors for various affinity bindings are regenerated by the method; the affinity reactions are used for optimizing the regeneration process. Immuno-reactions, **nucleic** acid **hybridization**, avidin/streptavidin-biotin, hormone-hormone receptor interactions are performed with Biacore instruments and CM5 sensor chips.

ST surface regeneration biosensor process optimization sensor chip Biacore

IT Proteins, specific or class
RL: ANT (Analyte); ANST (Analytical study)
(A; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT **Biotechnology**
(**biochips**, sensor chip CM5; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Carboxylic acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(dicarboxylic; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Milk substitutes
(human, anal. matrix for biotin; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(monoclonal, labeled; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Solvents
(org.; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Biosensors
Chelating agents
Computer application
Detergents
Optimization
Process automation
Simulation and Modeling, physicochemical
Staphylococcus
Temperature
Test kits
pH
(**surface** regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT Acids, uses
Bases, uses
Betaines
Crown ethers
Reagents
RL: NUU (Other use, unclassified); USES (Uses)
(surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 137161-09-7 252049-67-5
RL: ANT (Analyte); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 56-85-5
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 7440-57-5, Gold, uses
RL: DEV (Device component use); USES (Uses)
(surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 50-01-1, Guanidine hydrochloride 50-21-5, Lactic acid, uses 50-81-7, L-Ascorbic acid, uses 51-17-2, Benzimidazole 51-28-5, 2,4-Dinitrophenol, uses 51-34-3, L-Hydroxyproline 52-90-4, L-Cysteine, uses 54-11-5, Nicotine 55-22-1, 4-Pyridinecarboxylic acid, uses 56-12-2, 4-Aminobutyric acid, uses 56-23-5, Carbon tetrachloride, uses 56-40-6, Glycine, uses 56-41-7, L-Alanine, uses 56-45-1, L-Serine, uses 56-81-5, 1,2,3-Propanetriol, uses 56-84-8, L-Aspartic acid, uses 56-85-9, L-Glutamine, uses 56-86-0, L-Glutamic acid, uses 56-87-1, L-Lysine, uses 56-89-3, L-Cystine, uses **57-13-6, Urea**, uses 57-24-9, Strychnine 57-27-2, Morphine, uses 57-44-3, Veronal, uses 57-53-4, Papaverine 58-08-2, 3-Pyridinecarboxylic acid, uses 60-00-4, uses 60-09-3, 4-Aminoazobenzene 60-11-7, 4-Dimethylaminoazobenzene 60-18-4, L-Tyrosine, uses 60-29-7, Diethylether, uses 60-32-2, 6-Amino hexanoic acid **60-35-5**, Acetamide, uses 61-90-5, L-Leucine, uses 62-23-7, p-Nitrobenzoic acid 62-53-3, Benzenamine, uses 63-67-7, 2-Amino isobutyric acid 63-68-3, L-Methionine, uses 63-91-2, L-Phenylalanine, uses 64-04-0, 2-Aminoethyl benzene 64-17-5, Ethanol, uses 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 64-69-7, Iodoacetic acid 65-85-0, Benzoic acid, uses 66-71-7, 1,10-Phenanthroline 67-42-5, EDTA 67-52-7, Barbituric acid 67-56-1, Methanol, uses 67-63-0, 2-Propanol, uses 67-64-1, Acetone, uses 67-66-3, Chloroform, uses 67-68-5, Dimethylsulfoxide, uses 68-12-2, Dimethylformamide, uses 69-72-7, o-Hydroxybenzoic acid, uses **69-89-6**, Xanthine **69-93-2**, Uric acid, uses 70-18-8, L-Glutathione, uses 70-26-8, L-Ornithine 70-47-3, L-Asparagine, uses 71-00-1, Histidine, uses 71-23-8, 1-Propanol, uses 71-36-3, 1-Butanol, uses 72-18-4, L-Valine, uses 72-19-5, L-Threonine, uses 73-22-3, L-Tryptophan, uses **73-24-5**, 6-Amino purine, uses 73-32-5, L-Isoleucine, uses 74-11-3, p-Chlorobenzoic acid 74-79-3, L-Arginine, uses 74-89-5, Methylamine, uses 74-90-8, Hydrocyanic acid, uses 74-93-1, Methanethiol, uses 74-95-3, Methylene dibromide, uses 75-12-7, Formamide, uses 75-15-0, Carbon disulfide, uses 75-19-4, Cyclopropane 75-50-3, uses 75-52-5, Nitromethane, uses 75-60-5, Cacodylic acid 75-64-9, uses 75-65-0, 2-Methyl-2-propanol, uses 75-73-0, Tribromomethane 75-85-4, 3-Methyl-3-butanol, uses 76-05-1, Trifluoroacetic acid, uses 76-09-5, Trityl alcohol 76-93-7, Dihydroxytartaric acid 76-93-7, Tyrosine 77-92-9, uses 78-30-8, 1,2-Diaminopropane 78-92-2, 2-Butanol 78-93-3, Butanone, uses 79-01-6, Trichloroethylene, uses 79-08-3, Bromoacetic acid 79-09-4, Propionic acid, uses 79-10-7, 2-Propenoic acid, uses 79-11-8, Chloroacetic acid, uses 79-14-1, Uses 79-20-9, Methyl acetate 79-31-2, Isobutyric acid 79-43-6, Dichloroacetic acid, uses 81-07-2, Saccharin 83-56-7, 2,3,6-Trihydroxybenzoic acid **83-67-0**, Theobromine 84-66-2, 2-Hydroxy-3-acid quinoline 86-57-7, 1-alpha.-Naphthoic acid 86-58-8, 2-Benzoquinoline 87-04-4, uses 88-21-1, 2-Aminobenzenesulfonic acid 88-65-3, 2-Bromobenzoic acid 88-67-5, 2-Iodobenzoic acid 88-89-1, Picric acid 88-99-3, 1,2-Benzenedicarboxylic acid, uses 89-00-9, Quinolinic acid 90-04-0, o-Anisidine 90-15-3, 1-alpha.-Naphthol 90-41-5, 2-Amino biphenyl 90-64-2, DL-Mandelic acid 91-19-0, Isoquinoline 91-20-3, Naphthalene, uses 91-22-5, Quinoline 91-59-8, 2-alpha.-Naphthylamine 91-63-4, Quinoline, 2-methyl- 91-66-7, N,N-Diethyl aniline 91-80-5, Pilocarpine 92-67-1, Benzidine 92-69-3, 4-Phenylphenol 93-89-0, 4-Ethoxybenzoic acid 94-09-7, 4-Ethoxybenzocaine 94-13-3, p-Hydroxybenzoic acid, uses 95-47-6, o-Xylene 95-48-7, o-Cresol, uses 95-50-1 95-53-4, o-Toluidine, uses 95-57-8 96-22-0, 3-Pentanone 96-50-1, 2-Aminothiazole 97-59-6, Allantoin 97-65-4, uses 98-11-3, Benzenesulfonic acid, uses 98-89-5, Hexahydrobenzoic acid 98-95-3, Nitrobenzene, uses 98-96-4, 4-Pyridinecarboxylic acid 99-04-7, m-Toluic acid 99-05-8, m-Aminobenzoic acid 99-06-9, m-Hydroxybenzoic acid, uses 99-09-2,

3-Nitro aniline 99-10-5, 2,5-Dihydroxybenzoic acid 99-50-3, 3,4-Dihydroxybenzoic acid 99-[illegible], p-Hydroxybenzoic acid, uses 100-01-6, 4-Nitro aniline, uses 100-01-6, uses 100-21-0, 1,4-Benzenedicarboxylic acid, uses 100-46-9, Benzylamine, uses 100-47-0, Benzonitrile, uses 100-51-6, Benzyl alcohol, uses 100-61-8, N-Methyl aniline, uses 100-66-3, Methoxybenzene, uses 100-71-0, 2-Ethyl pyridine 100-82-6, 2-Benzyl pyridine 101-84-8, Diphenylether 101-[illegible], 102-04-2, cis-Cinnamic acid, uses 103-[illegible], Glycine, N-phenyl- 103-01-5, N-Ethyl aniline 103-[illegible], Phenylacetic acid, uses 104-03-0, p-Nitrophenylacetic acid 104-[illegible], p-Anisidine 106-40-1, 4-Bromo aniline 106-40-1, p-Cresol, uses 106-40-9 106-49-0, p-Toluidine, uses 107-06-2, uses 107-10-8, Propylamine, uses 107-15-3, 1,2-Ethanediamine, uses 107-21-1, 1,2-Ethanediol, uses 107-43-7, Taurine 107-53-7, 1-Amino-3-methylbutane 107-92-6, Butanoic acid, uses 107-93-7, trans-Crotonic acid 107-94-8, 3-Chloropropionic acid 107-95-9, b-Amino propanoic acid 107-97-1, N-Methylglycine 108-18-9, Diisopropylamine 108-20-3, Diisopropyl ether 108-24-7, Acetic anhydride 108-39-4, m-Cresol, uses 108-45-2 108-44-1, m-Toluidine, uses 108-46-3, 1,3-Benzenediol, uses 108-47-4, 2,6-Dimethyl pyridine 108-75-8, 2,4,6-Trimethyl pyridine 108-78-1, 3,5-Triazine-2,4,6-triamine, uses 108-[illegible], Isobutanol, uses 108-[illegible], uses 108-89-4 108-91-8, Cyclohexanamine, uses 108-95-2, Phenol, uses 109-[illegible], Pyridine, 4-methyl- 109-06-8 109-06-8, 2-Methylpyridine 109-[illegible], 2-Aminopyrimidine 109-[illegible], Valeric acid, uses 109-73-9, n-Butylamine, uses 109-74-0, Butyronitrile 109-[illegible], 1,3-Diaminopropane 109-[illegible], Diethylamine, uses 109-[illegible], uses 110-15-6, Butanedioic acid, uses 110-[illegible], Maleic acid, uses 110-17-8, Fumaric acid, uses 110-54-3, n-Hexane, uses 110-58-7, n-Amylamine 110-60-1, 1,4-Diaminobutane 110-[illegible], Cyclohexane, uses 110-[illegible], Piperazine, uses 110-86-1, Pyridine, uses 110-89-4, Piperidine, uses 110-[illegible], Morpholine, uses 110-94-1, Glutaric acid 110-96-3, Diisobutylamine 111-14-8, Heptanoic acid 111-16-0, Heptanedioic acid 111-26-2, N-Hexylamine 111-[illegible], 1-Bromo-2, uses 111-[illegible], uses 111-[illegible], 1-Amino heptane 111-[illegible], Octylamine 111-[illegible], Octanoic acid 111-[illegible], N-Octylamine 111-84-0, Diphenylacetic acid 113-[illegible], o-Toluic acid 115-[illegible], o-Chlorobenzoic acid 118-[illegible], 2-Aminobenzoic acid 119-[illegible], 2-Amino-4,6-dihydroxy pteridine 119-[illegible], Isoquinoline 119-[illegible], Methyl-4-aminobenzoate acid 120-[illegible], Purine 120-[illegible], 1,3-Benzenediol, uses 120-[illegible], N-Methyl pyrrolidone 121-[illegible], uses
RL: DFM (Other use, unclassified); USES (Uses)
(surface regeneration of biosensors using a combination of salts, based on interaction-specific optimized processes)

IT 121-47-1, Benzenesulfonic acid, 3-amino- 121-[illegible], p-Aminobenzenesulfonic acid 121-91-5, 1,3-Benzenedicarboxylic acid, uses 121-[illegible], m-Nitrobenzoic acid 122-[illegible], Diphenylamine, uses 122-[illegible], Acetic acid, phenyl ester 123-[illegible], p-Chlorophenoxyacetic acid 123-[illegible], Hydroquinone, uses 124-[illegible], N-Methyl tetradecanamide 123-[illegible], Pyrrolidine, uses 125-[illegible], 1-Amino heptane 125-[illegible], Dioxane, uses 126-[illegible], Hexanedioic acid, uses 126-[illegible], Octanoic acid, uses 126-[illegible], 1,6-Hexanediamine, uses 126-[illegible], 1-Dodecanamine 126-[illegible], Dimethylamine, uses 126-[illegible], Sulfolan 130-[illegible] 134-32-7, alpha.-Naphthylamine 135-[illegible], beta.-Naphthol, uses 135-[illegible], Glycine, N,N-bis(carboxymethyl)- 139-[illegible], trans-Cinnamic acid, uses 141-[illegible], uses 141-[illegible], Acetic acid ethyl ester, uses 141-82-2, Malonic acid, uses 142-[illegible], alpha.-Hydroxy pyridine 142-[illegible], 6-Caproic acid, uses 142-[illegible], Glycine, N-(carboxymethyl - 142-[illegible], Dibutyl ether 143-[illegible], 1-Hexadecanamine 144-[illegible], Ethanedioic acid, uses 144-[illegible], Allothreonine 147-[illegible], Mesotartaric acid 147-[illegible], L-Proline, uses 148-[illegible], 8-Hydroxy quinoline, uses 149-[illegible], Gallic acid, uses 150-[illegible], p-Aminobenzoic acid 151-[illegible], Aziridine, uses 156-[illegible], p-Phenetidine 204-[illegible], Perimidine 205-[illegible], Phenanthridine 253-[illegible], Cinnoline 253-82-7, Quinazoline 260-[illegible], Acridine

288-32-4, Imidazole, uses 288-47-1, Thiazole 289-95-2, Pyridazine 290-37-9, Pyrazine 299-42-3, Ephedrine 300-85-6, .beta.-Hydroxybutyric acid 302-01-2, Hydrazine, uses 305-84-0, .beta.-Alanyl histidine 307-55-1, L-Norleucine 329-71-5, 2,5-Dinitrophenol 333-20-0, Potassium thiocyanate 334-25-3, Allpamic acid 338-69-2, D-Alanine 343-54-9, .-Fluoro aniline 357-57-3, Brucine 371-40-4, 4-Fluoro aniline 372-09-8, Cyanoacetic acid 372-19-0, 3-Fluoro aniline 462-06-6, Fluorobenzene 461-42-5 470-11-1, Allomandic acid 471-27-6, 1,-Naphthalenediamine 471-34-1, DCYTA 471-21-1, Dimethylmalonic acid 490-79-9, 2,5-Dihydroxybenzoic acid 491-36- , 4-Methyl quinoline 493-47-1, .alpha.-Phenylpropionic acid 495-69-2, Hippuric acid 495-18-1, Methylaminoisobutyric acid 497-19-8, Mevalonic acid 499-06-9, Phenylbutyric acid 499-40- , Barbituric acid 499-21-0, Dimethylmalonic acid 501-52-0, .beta.-Phenylpropionic acid 503-66-2 503-38- , Iso-valeric acid 504-24-5, 4-Amino pyridine 504-29-0, 2-Amino pyridine 505-45-9, Octanedioic acid 505-79-5, Thiosemic acid, uses 516-05-2, Methylmalonic acid 516-54-1, Dihydroxymaleic acid 527-60-6, m-Chlorobenzoic acid 536-90-3, m-Anisidine 540-48-3, 2-Methylamino heptane 541-51-4, Aminomethyl acid, uses 543-24-8, N-Acetyl glycine 543-50-4, 3-Nitrobenzenesulfonic acid 554-00-7, 2,4-Dichloro aniline 556-24- 557-66-4, Glycylglycyl glycine 556-50-3, Glycyl glycine 556-24-8, 2,5-Dichlorophenol 580-15-6, 3-Amino quinoline 580-20-1, 3-Hydroxy quinoline 581-61-8, Pyridine, 2,3-dimethyl- 585-48-2, m-Bromobenzoic acid 586-77-6, 4-Bromo-N,N,dimethyl aniline 586-11-8, m-Chlorophenoxyacetic acid 588-93-0, m-Allyl aniline 591-27-5, 3-Bromo aniline 591-24-4, Isobenzene 591-78-6, Methylbutylketone 591-81-1, .gamma.-Hydroxybutyric acid 591-27-5, Dimethylmalonic acid 592-38-7, 2-Chlorophenoxy acetic acid 611-00-6, 4-Hydroxyquinoline 611-90-1, 3-Chlorophenoxyacetic acid 611-35-8, 2-Methyl benzimidazole 615-36-1, 2-Bromo aniline 615-43-0, 2-Iodo aniline 616-45-7, 1-Amino pentane 616-47-9, 1-Methyl imidazole 616-46-8, DL-Aspartic acid 617-45-8, m-Isocinchomeronic acid 618-61-7, 2,N-Dimethyl-4-nitro aniline 618-87-1, m-Phenetidine 618-89-3, Phenylacetic acid 619-44-4, 3,5-Dibromo Aniline 620-71-3, .beta.-Methylglutaric acid 626-55-1, 3-Bromo pyridine 626-60-8, 4-Chloro pyridine 626-65-3, 4-Hydroxy pyridine 626-67-5, 1-Methyl piperidine 627-31-6, 4-Chlorobutyric acid 628-07-6, 2-Cyanopropionic acid 646-07-1, Iso-caproic acid 660-88-8, 5-Amino pentanoic acid 671-88-6, 1,2-Dimethyl piperidine 686-10-6, Benzyl glycine 716-79-0, 2-Ethyl benzimidazole 728-41-0, 1,2-Dimethyl pyrrolidine 766-09-6, 1-Ethyl piperidine 766-11-0, 2-Amino-4,6-dimethylpyrimidine 767-66-1, 2,2,6,6,-Tetramethyl piperidine 556-50-3, Glycyl leucine 1118-68-1, 2,4-Dimethyl imidazole 827-94-1, 2-Phenylbenzoic acid 1118-68-5, Dimethylglycine 1121-60-4, 4-Methylamino pyridine 1121-60-4, 4-Formyl pyridine 1126-83-3, 6-Chloro picolinic 1135-22-2, 4-Benzyl aniline 1300-21-6, Dichloroethane 1310-73-2, Calcium hydroxide, uses 1327-53-3, Arsenic oxide 1330-20-7, Dimethylbenzene, uses 1336-21-6, Ammonium hydroxide 1338-48-0, 1-Amino isoquinoline 1515- -, p-Chlorocinnamic acid 1531-73-8, Hydrocinnamic acid, o-chloro- 1821-12-1, .gamma.-Phenylbutyric acid 1849-64-2, 2-Ethyl benzimidazole 1866-39-3, m-Chlorocinnamic acid 1866- -, p-Methylcinnamic acid 1877-73-2, m-Nitrophenylacetic acid 1878- -5, m-Chlorophenylacetic acid 1878- -6, p-Chlorophenylacetic acid 1878- -8, p-Cyanophenoxyacetic acid 1918- -9 1918- -, o-Chlorobutyric acid 1938- -, Glycylglycine 2000- -5, Hydrocinnamic acid, o-nitro- 2216-44-4, 1-Tetradecanamine 2216- -1, n-Decylamine 2216-38-3, Hydrocinnamic acid, p-chloro- 2216- -4, N-Methyl .alpha.-naphthylamine 2216-67-8, Decylamine 2436-54-4, 2-Amino-4-hydroxy pteridine 2538-68-4, m-Methylcinnamic acid 2444- -2, o-Chlorophenylacetic acid 2466-09-3, Pyrophosphoric acid 2570- -1, N-Pentadecylamine 2811- -1 2869- -, Tridecanamine 3 - -, m-Methylcinnamic acid 3073-77-6, 2-Amino-4-nitro pyrimidine 3074- -9, DL-Cysteine 3485-46-3, 2-Pentanamine, 3-methyl- 3696- -, Glycyl alanine 3740- -1,

o-Nitrophenylacetic acid 4170-24-5, 2-Chlorobutyric acid 4318-76-7, ,5-Diamino pyridine 4945-45-6, N-Butyl piperidine 5283-87-6, -Methoxy quinoline 5332-24-1, 3-Bromo quinoline 5013-64-9, 1-Amino-2,2-dimethylpropane 6240-77-4 6574-95-4, Acetic acid, (2-cyanophenoxy)- 6915-15-7 7099-67-6 7681-43-5, Glycylserine 7696-8 - 4, 5-Quinaldinic acid 7901-64-9, Phosphoric acid, trimonium salt 7705-1 -4 7681-9 -4, 8-Hydroxy quinoline 7661-35-4, 1-Methyl quinoline 7606-4 -1, Phosphoric acid, uses 7664-9 -9, Iodic acid, uses 7782-41-4, Fluoric acid (HBF3O3) 7738-94-5, Chromic acid (H2CrO4) 7778-54-3, Arsenic acid 7778-07-3, Iodic acid 7782-77-6, Nitrous acid 7782-99-2, Chromous acid, uses 7788-98-9, Selenious acid 7783-08-6, Selenic acid 7783-20-2, Magnesium chloride, uses 7786-3 -2, Hypochlorous acid 7790-9 -8, Hydroxylamine, uses 7803-49-8, Triton X-100 9002-93-1, Tween 20 9005-64-5, Tween 80 9005-65-6, Boric acid (H3PO3), uses 10294-33-4, Tellurous acid 10049-23-7, Cyclohexanamine, n-butyl- 10108-64-2, Silicic acid (H4SiO4) 10193-36-9, Methyl-p-aminobenzoic acid 10312-48-6, Telluric acid 10361-43-0, Tetraboric acid 12007-41-2, Silver hydroxide 12051-05-3 13327-32-7, Beryllium hydroxide 13327-71-0, Periodic acid 13444-71-8, Arsenous acid 13510-49-1, Hypophosphorous acid 14332-55-1, Phosphorous acid, uses 14313-41-7, Hypobromous acid 14380-62-1, Switchgrass 15121-18-3, Germanium hydroxide 58-08-2,

RL: BUU (Other use, unclassified); USES (Uses)

(surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 10031-43-3 10043-35-3, Hydrochloric acid, p-nitro- 10124-43-3, Lead hydroxide 12167-74-7, Iron hydroxide 12770-27-1, Hydroxyaluminum(1+) 13010-47-4 21801-03-3, 1,2,3-Trihydroxypropane 21643-45-3, Hydroxylamine acid, m-chloro- 23884-13-4, 1-Naphthalenol, 4-amino- 25154-52-3, Nitrophenol 25154-52-4, Naphthalenesulfonic acid 25167-83-3, Trinitrophenol 25265-14-4, N,N-Propyl glycine 26447-05-5, Paraaminobenzoic acid 26124-78-6, Ethylbenzoic acid 26761-40-0, Iso-propylbenzoic acid 34698-41-4, 1-Amino indane 37491-63-6, 2-Dimethylaminopurine 37091-42-7, 1-Cyanobutyric acid 41460-35-3, Fluorobenzoic acid 42858-73-6, Ethylphenylacetic acid 42784-52-5, N-Ethyl-m-aminobenzoic acid 49849-53-5, Pentanediamine 62637-93-7, 1-Amino-pentane 64010-52-3 71749-32-5 73731-38-3, HEPES 75277-39-3 76463-85-5 84553-35-5 88192-04-2 101137-71-0 103579-86-2 151901-74-2

RL: BUU (Other use, unclassified); USES (Uses)

(surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

IT 2511-91-4 5114-83-2 25491-94-0 25191-94-1 25191-95-2 25191-96-3 25191-97-4 25191-98-5 25191-99-6 25192-00-2 25192-01-4 25192-02-5 25192-03-6

RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(**synthetic** peptide amino acid sequence; surface regeneration of biosensors using a combination of solns. based on interaction-specific optimized processes)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Andersson, K; Anal Chem 1994, V71(13), P2175 HCAPLUS
(2) Biacore AB; EP 0717990 A 1997 HCAPLUS
(3) Loefas, S; WO 9836268 A 1998 HCAPLUS
(4) Marconi Gec Ltd; GB 2270976 A 1994 HCAPLUS
(5) Yamamoto, A; EP 0539359 A 1993 HCAPLUS

L142 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:177007 HCAPLUS

DN 131:156697

TI Method and apparatus for the purification and detection of **nucleic** acids and peptides using reversible affinity gel electrophoresis

IN Abrams, Ezra S.; Hammond, Philip W.; Muir, Andrew R.; Boles, T. Christian
PA Mosaic Technologies, USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C01N033/47-.76
ICS C01N033/47-447
CC **9-7** (Biochemical Methods)
Section cross-reference(s): 3
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9946593	A2	19990916	WO 1999-US4849	19990303
	WO 9946593	A3	20000127		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2321595	AA	19990916	CA 1999-2321595	19990303
	AU 9930983	A1	19990927	AU 1999-30983	19990303
	EP 1060416	A2	20001220	EP 1999-909453	19990303
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002506204	T2	20020226	JP 2000-536062	19990303
PRAI	US 1998-76614P	P	19980303		
	WO 1999-US4849	W	19990303		

AB An affinity electrophoresis process is described, in which the direction of electrophoresis is varied in a cyclical manner while synchronously changing one or more property of the electrophoretic medium between two states, said states being characterized as favoring or disfavoring specific reversible binding of sample analytes to affinity ligands which are immobilized within the medium. The resulting process enables extremely efficient and convenient sepn. of the specific analytes for detection or purifn., using simple materials and app. Parameters as **temp.**, pH, ionic strength, detergent or denaturant concn. are altered along with the change of polarity. Analytes are labeled with various reporter mols., e.g. fluorescent dyes, enzymes, amplifiable mols. Examples for labels are fluorescein, alk. phosphatase, substrate of Q-beta replicase. The electrophoretic app. is computer driven; cycles are programmed according to the mixt. to be sepd. for preparative or anal. purposes. The app. incorporates various units: electrophoretic medium with the immobilized ligand; power supply; electrode system; buffer reservoirs; addnl. reservoirs, e.g. for **urea** or formamide, detergents; Peltier-effect heating/cooling unit. The method and app. can be applied in one, two or three dimensions. This an **oligonucleotide** was covalently immobilized to **polyacrylamide** gel. A second **oligonucleotide**, not complementary to the immobilized one, was labeled with fluorescein and loaded into the first lane. A third **oligonucleotide**, complementary to the immobilized one, was also labeled with fluorescein and loaded into the second lane. The third lane was loaded with the mixt. of the two fluorescein labeled **oligonucleotides**. In step one, the **temp.** was set to 45 degree.C and elec. field was applied for 45 min at 100 V. In step two, the **temp.** was maintained at 45 degree.C; the elec. field was applied for 50 min and 100 V with opposite polarity. After three such cycles the two fluorescein labeled **oligonucleotides** were sepd.

ST reversible affinity gel electrophoresis **oligonucleotide** peptide sepn

IT Affinity
Buffers
Chelating agents
Control apparatus
Denaturants
Detergents
Drugs
Electrodes
Gel electrophoresis
Gel electrophoresis apparatus
Immobilization, biochemical
Ionic strength
Nucleic acid hybridization
Polarity
Purification
Temperature
Thermoelectric devices
pH
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT **DNA**
Peptides, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation); USES (Uses)
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT **Oligonucleotides**
Proteins, general, analysis
RNA
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT Amino acids, uses
Antibodies
Enzymes, uses
Hormones, animal, uses
Lipids, uses
Polysaccharides, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT **DNA**
RL: ANT (Analyte); ARG (Analytical reagent use); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation); USES (Uses)
(single-stranded; method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT 3321-97-1, Fluorescein
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(label; method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT 9001-78-9, Alkaline phosphatase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT **57-13-6, Urea**, analysis 75-12-7, Formamide, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

IT 9026-78-2, Q-Beta replicase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(substrate of; method and app. for purifn. and detection of **oligonucleotides** and peptides using reversible affinity gel electrophoresis)

L142 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:249114** HCAPLUS
DN **130:293631**
TI Collections of uniquely tagged molecules and methods and kits for creating and analyzing molecules using such tags
IN Szabo, Joseph A.
PA Stratagene, USA
SO PCT Int. Appl., 138 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-68
CC **9-14** (Biochemical Methods)
Section cross-reference(s): **3**, 80
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9918240	A1	19990415	WO 1998-US20874	19981005
	WO 9918240	A3	19990930		
	W: CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1015643	A1	20000726	EP 1998-945147	19981005
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1997-944410	A	19971006		
	WO 1998-US20874	W	19981005		

AB A method for functionally labeling large nos. of mol. species in a mixt. of different species is provided. Each mol. species is labeled with a species-unique tag which allows for the rapid identification of each labeled species. The species-unique tag is identifiable by a uniquely identifiable property or characteristic. Circular templates having public and private regions were **synthesized** and conditions for primer:template pairing were tested.

ST mol tag labeling analysis **synthesis**; **nucleic** acid mol tag analysis **synthesis**

IT Histocompatibility antigens
RL: MOA (Miscellaneous)
(HLA, HLA-DP.beta., distinguishing alleles of gene for; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags

IT Reaction
(amplification, enzyme reaction, in making tags and products; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **Oligonucleotides**
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(as reporter or base subunit that dissocs. under unique conditions; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Amino acids, uses
Hydrocarbons, uses
Nucleic acids
Peptides, uses
Proteins, general, uses
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical

process); ANST (Analytical study); PROC (Process); USES (Uses)
(as reporter subunit dissocg. from base subunit under unique conditions; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **DNA** sequence analysis
Molecular
RNA sequence analysis
Synthesis
Test kits
(collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **Primers (nucleic acid)**
Probes (nucleic acid)
FL: ARG (Analytical reagent use.); PEP (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **mRNA**
FL: ANT (Analyte); ANST (Analytical study)
(detection of; particular; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Mutation
(detection of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Gene, animal
FL: PEP (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for leukocyte antigen HLA-DP.beta., distinguishing alleles of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **cDNA**
FL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formation of, in detecting particular **mRNA**; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **Oligonucleotides**
FL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(**immobilized**, as reporter or base subunit that dissocs. under unique conditions; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **PCR (polymerase chain reaction)**
(in making tags and products; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Enzymes, uses
FL: CAT (Catalyst use); USES (Uses)
(in making tags and products; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Alleles
(of leukocyte antigen HLA-DP.beta. gene, detn. of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **DNA sequences**
(of primers and templates; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Dissociation
(of tags with reporter and base subunits under unique conditions; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **Plasmids**
(pCR-SCRIPT, **oligonucleotide** inserts in, as circular template

having public and private domains; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **Deoxyribonucleotides**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(primer-template pairing response to; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Affinity
reagent, as reporter subunit dissocg. from base subunit under unique conditions; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Electric field
Magnetic field
Temperature
pH
(tag dissocn. with; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Antibodies
Antigens
Ligands
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(tags identifiable by affinity for; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Atomic force microscopy
NMR (nuclear magnetic resonance
(tags identifiable by; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Isotopes
RL: ARG (Analytical reagent use); REM (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(tags with information encoding elements having uniquely identifiable emissions of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Radionuclides, uses
RL: ARG (Analytical reagent use); REM (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(tags with information encoding elements of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Light
(tags with uniquely identifiable absorption or emissions of; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT Electric properties
Hydrophilicity
Magnetic properties
Molecular structure
Molecular weight
(tags with uniquely identifiable; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-15-0P 223243-17-2P 223243-18-3P 223243-24-1P 223243-25-2P
223243-26-3P 223243-27-4P 223243-28-5P 223243-29-6P
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(PCR mutagenesis primer for generating linear template; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-50-3P 223243-51-4P 223243-53-6P 223243-54-7P

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR primer; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-30-6 223243-31-7P 223243-32-8P 223243-33-9P 223243-34-0P
223243-35-1 223243-36-2P 223243-37-3P 223243-38-4P 223243-39-5P
223243-40-9 223243-41-0P 223243-42-1P 223243-43-2P 223243-44-3P
223243-45-4

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR reading primer; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-46-8 223243-47-9P

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR adaptor; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-48-0P

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR downstream primer for distinguishing alleles of leukocyte antigen HLA-DP.beta. gene; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-49-1P 223243-50-4P 223243-51-5P 223243-52-6P 223243-53-7P
223243-54-8P 223243-55-9P 223243-56-0P 223243-57-1P 223243-58-2P
223243-59-3P 223243-60-6P 223243-61-7P 223243-62-8P 223243-63-9P
223243-64-0P

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR primer, testing primer-template pairing; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-65-1P 223243-66-2P

RL: PPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(HLDR upstream primer for distinguishing alleles of leukocyte antigen HLA-DP.beta. gene; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 9031-61-2, Ligase

RL: CAT (Catalyst use); USES (Uses)
(HLDR reaction, in making tags and products; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 9076-07-1, Restriction enzyme

RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); PROC (Process)
(in detecting particular mRNA; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 9005-64-5, Tween-20

RL: ARG (Analytical reagent use, unclassified); ANST (Analytical study)
(in distinguishing alleles of leukocyte antigen HLA-DP.beta. gene; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223242-67-0P 223242-68-1P 223242-69-2P 223242-70-5P
223243-66-1P 223243-67-2P

RL: BPR (Biological process); BSU (Biological study, unclassified); PRP

(Properties); SNU (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(**oligonucleotide** insert in plasmid pCR-SCRIPT as circular template having public and private domains; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-10-5P
RL: BPP (Biological process); BSU (Biological study, unclassified); PRP (Properties); SNU (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(primer-template pairing; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 7439-95-4, Magnesium ion, biological studies
RL: BPP (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(primer-template pairing response to; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT [illegible]
RL: BPP (Biological process); BSU (Biological study, unclassified); PRP (Properties); SNU (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(primer; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 9012-90-2, **DNA** polymerase
RL: BPP (Biological process); BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(priming specificity response to; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT **57-13-6, Urea**, analysis 75-12-7, Formamide, analysis
RL: ARG (Analytical role, unclassified); BBP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(low dissocn. with; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

IT 223243-57-0P 223243-58-1P 223243-59-2P 223243-60-5P 223243-61-6P 223243-62-7P 223243-63-8P
RL: BPP (Biological process); BSU (Biological study, unclassified); PRP (Properties); SNU (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(upstream PCR primer with mismatch; collections of uniquely tagged mols. and methods and kits for creating and analyzing mols. using such tags)

L142 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:170168 HCAPLUS
DN 130:150521
TI Reagentless Electrochemical Activation of a Microelectrode for Enzyme-Amplified Recognition and for Melting-**Temperature** Determination of 105 Copies of a Single **Oligonucleotide**
AU de Lumley-Woodyear, T.; Campbell, C. N.; Heller, A.
CS Department of Chemical Engineering and Texas Materials Institute, The University of Texas at Austin, Austin, TX, 78712-1062, USA
SO Analytical Chemistry (1999), 71(12), 2394-2398
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
CC **9-7** (Biochemical Methods)
Section cross-reference(s): 7
AB The **hybridization** of 10⁵ copies of 25-30-base single-stranded poly(deoxythymidine)-5'-phosphate [ss-pd(T)25-30] was detected amperometrically with a 10 .mu.m-diam. microelectrode. The melting of 105

copies of the **hybrid** with horseradish peroxidase (HRP)-labeled poly(deoxyadenine)-5'-phosphate [ss-pd(A)25-30-HRP] was also tracked by amperometry. The microelectrode was coated with its **hybridization** -sensing layer in a two-step process involving electrophoretic deposition, which yielded reproducible electrode coatings. In the first step, a thin film of an electron-transporting redox polymer was deposited electrophoretically at 1 mA current on the vitreous carbon surface of the microelectrode. In the second step, carbodiimide-activated 5'-phosphorylated ss-pd(A)25-30 was reductively electrophoretically deposited and covalently attached to the redox polymer film. Subsequent **hybridization** led to close contact between the HRP label of ss-pd(A)25-30 and the conducting redox polymer. This contact resulted in catalysis of H_2O_2 electrochem. to water at 0.0 V vs. Ag/AgCl. The 20.+-.2 pA current produced by 10^5 copies of **hybridized** pd(A)25-30-HRP was at least 8 times greater than the 2.4.+-.2.5 pA current measured with nonmatching complementary HRP-labeled poly(deoxycytidine)-5'-phosphate and 40 times greater than the 0.5 pA elec. background noise.

ST microelectrode **oligonucleotide** melting **temp** enzyme amplified

IT Amperometry
Microelectrodes
Nucleic acid hybridization
Thermal stability
(reactive electrophoretic activation of a microelectrode for enzyme-amplified recognition and for melting-**temp.** detn. of 10^5 copies of a simple **oligonucleotide**)

IT 7722-84-1, Hydrogen peroxide, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(reactive electrophoretic activation of a microelectrode for enzyme-amplified recognition and for melting-**temp.** detn. of 10^5 copies of a simple **oligonucleotide**)

IT 9003-99-0, Peroxidase, poly(deoxyadenine)-5'-phosphate **hybrid** **25086-81-1** **25191-20-2D**, Poly(A), horseradish **hybrid**
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(reactive electrophoretic activation of a microelectrode for enzyme-amplified recognition and for melting-**temp.** detn. of 10^5 copies of a simple **oligonucleotide**)

IT **9003-05-8D, Polyacrylamide,** copolymer with osmium dimethylbipyridine and polyvinylimidazole 153110-22-6D, copolymer with **acrylamide** and 1-vinylimidazole 25211-41-2D, Polyvinylimidazole, copolymer with osmium dimethylbipyridine and **polyacrylamide**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(reactive electrophoretic activation of a microelectrode for enzyme-amplified recognition and for melting-**temp.** detn. of 10^5 copies of a simple **oligonucleotide**)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L142 ANSWER 21 OF 35 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:[illegible] HCAPLUS
DN [illegible]
TI Biomolecular processor for isolation and purifn. of **nucleic** acids
IN Field, Foker E.
PA USA
SO PCT Int. Appl., 38 pp.
DOCEN: PIXXD2
DT Patent
LA Engl. h
ID [illegible]
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3, 6
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9842874	A2	19981001	WO 1998-US6029	19980323
	WO 9842874	A3	19981223		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BI, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9867790	A1	19981020	AU 1998-67790	19980323
	EP 973080	A2	20000119	EP 1998-913175	19980323
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1997-41[illegible]	P	19[illegible]		
	WO 1998-US6029	W	19980323		

AB A process and app. are described for isolating and purifying **nucleic** acids and other target mols. directly from blood, plasma, urine, cell cultures and the like by totally automated means, without centrifugation, aspiration or vacuum. After mixing and heating a **nucleic** acid contg. sample with lysis reagent in an environmentally isolated compartment, **nucleic** acids are absorbed onto a binding filter and eluted in a small vol. using heated elution reagent. A preferred embodiment purifies **nucleic** acids and automatically detects target sequences from a sample of fresh blood. Another embodiment purifies target mols. from a multitude of samples held in microtiter plates. Test kits for each embodiment include disposable isolation and detection devices and assocd. reagents.

ST biomol processor app **nucleic** acid purifn

IT Purification
(app.; biomol. processor for isolation and purifn. of **nucleic** acids)

IT Blood
Blood analysis
Blood plasma
Cell
Cytolysis

Extraction apparatus
Filters
Filtration
Fluorometers
Heaters
Nucleic acid hybridization
Purification
Robotics
Semen
Thermal cycling
Urine
Urine analysis
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT Carbohydrates, analysis
DNA
Nucleic acids
Peptide nucleic acids
Proteins, general, analysis
RNA
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT Antibodies
RL: AFU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT Avidins
RL: AFU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT **Oligonucleotides**
RL: AFU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT **Probes (nucleic acid)**
RL: AFU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT Glass, analysis
RL: AFU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)

IT Apparatus
(biomol. processor; biomol. processor for isolation and purifn. of **nucleic** acids)

IT Denaturants
(chaotropic; biomol. processor for isolation and purifn. of **nucleic** acids)

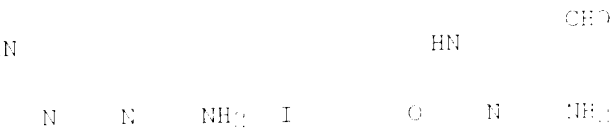
IT Gene
RL: ARU (Analytical role, unclassified); BUU (Biological use,

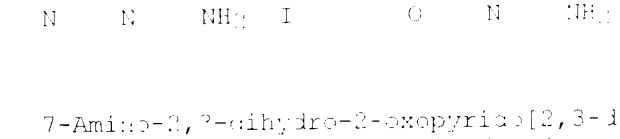
unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(chip; biomol. processor for isolation and purifn. of **nucleic** acids)
IT Surfactants
(nonionic; biomol. processor for isolation and purifn. of **nucleic** acids)
IT Laboratory ware
(sample tube or well; biomol. processor for isolation and purifn. of **nucleic** acids)
IT 58-85-5, Biotin
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)
IT **57-13-6**, **Urea**, analysis 593-84-0, Guanidine isothiocyanate 7632-00-0, Sodium phosphate 7681-11-0, Potassium iodide, analysis 9003-53-6, Polystyrene **9004-70-0**, Nitrocellulose 9004-70-0, Octylphenoxypolyethoxyethanol 14808-60-7, Quartz, analysis
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(biomol. processor for isolation and purifn. of **nucleic** acids)
IT **73-24-5**, Adenine, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(poly A; biomol. processor for isolation and purifn. of **nucleic** acids)
IT 65-71-4, Thymine
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(poly T; biomol. processor for isolation and purifn. of **nucleic** acids)

L142 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN **1997:664239** HCAPLUS
DN **127:331502**
TI Preparation of 7-amino-2,3-dihydro-2-oxopyrido[2,3-d]pyrimidine as intermediate for fluorescent DNA **probe synthesis**
IN Anaka, Kikuo; Miyata, Hiroyuki; Takama, Akira
PA Ube Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07D471-04
ICS C07H019-073
CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom)
Section cross-reference(s): **9**, 33
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09263584	A2	19971007	JP 1996-76744	19960329

OS CASREACT 127:331502; MARPAT 127:331502
GI





AB 7-Amino-3,7-dihydro-2-oxopyrido[2,3-d]pyrimidine (I) is prepd. by reaction of 5-formyl-6-amino-3,6-dihydro-2-oxopyrimidine (II) with (RO)2P(O)CH2CN (R = C1-6 alkyl) in the presence of bases in solvents. I is an intermediate for oligo- or polynucleotides contg. pyridopyrimidine nucleotide deriv. unit at the terminus or within the mol., which are in turn intermediates for fluorescent DNA **probe synthesis**. 2-Butoxymethylene-3,3-dibutoxypropanenitrile/BuOH mixt. was treated with NH2CONH2 in the presence of MeONa in toluene under reflux for 5 h to give 78.6% II. II was treated with (EtO)2P(O)CH2CN/toluene mixt. in the presence of NaOH in H2O at room **temp.** for 5 h to give 14% I.

ST oxopyrimidine reaction cyanomethylphosphonic acid ester; pyridopyrimidine prepn intermediate fluorescent DNA **probe**

IT **Oligonucleotides**
Polynucleotides
RL: BSU (Biological study, unclassified); PREP (Preparation)
(intermediates; prepn. of oxopyridopyrimidine by reaction of oxopyrimidine with cyanomethylphosphonates)

IT **Probes (nucleic acid)**
RL: BSU (Biological study, unclassified); PREP (Preparation)
(prepn. of aminodihydrooxopyridopyrimidine as materials for fluorescent DNA **probe synthesis**)

IT **57-13-6, Urea**, reactions 19906-74-4,
2-n-Butoxymethylene-3,3-di-n-butoxypropanenitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of oxopyrimidine; prepn. of oxopyridopyrimidine by reaction of oxopyrimidine with cyanomethylphosphonates)

IT 19906-74-4
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of oxopyridopyrimidine by reaction of oxopyrimidine with cyanomethylphosphonates)

IT 2537-48-6, Diethyl cyanomethylphosphonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of oxopyridopyrimidine by reaction of oxopyrimidine with cyanomethylphosphonates)

IT 5425-54-6P, 5-Formyl-6-amino-3,6-dihydro-2-oxopyrimidine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of oxopyridopyrimidine by reaction of oxopyrimidine with cyanomethylphosphonates)

L142 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:66[illegible]6 HCAPLUS
DN 127:27[illegible]4
TI **Nucleic** acid isolation
IN Orsi, Philippe; Elaissari, Abdelhamid; Mabilat, Claude; Pichot, Christian; Rodrigue, Marc; Santoro, Lise
PA Bio Merieux, Fr.; Orsi, Philippe; Elaissari, Abdelhamid; Mabilat, Claude; Pichot, Christian; Rodrigue, Marc; Santoro, Lise
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C07H021-04

ICS C12Q001-68; G01N027-447
CC **9-16** (Biochemical Methods)
Section cross-reference(s): **3**
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9734014	A1	19970918	WO 1997-EP1496	19970320
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2219192	AA	19970918	CA 1997-2219192	19970320
	EP 942984	A1	19990915	EP 1997-915628	19970320
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 11504516	T2	19990427	JP 1997-533211	19970320
PRAI	EP 1996-1703		19960319		
	EP 1996-4091		19960409		
	WO 1997-EP1496		19970320		

AB A method for aq. phase **nucleic** acid isolation from a sample, comprising a step of **nucleic** acid adsorption on a particulate substrate, is disclosed. The method comprises an adsorption reagent prepn. step (a) providing an adsorption reagent that includes a sol consisting of an aq. continuous phase and a dispersed particulate substrate phase including a functionalized particulate polymer prepd. by polymg. (1) a first water-sol. **acrylamide** or **acrylamide** deriv. monomer, (2) at least one crosslinking agent, and (3) at least one second water-sol., cationic and functional monomer, said polymer having a predetd. lower crit. soly. **temp.** (LCST) of 25-45.degree.; a contact step (b) wherein the adsorption reagent is contacted with the sample contg. the **nucleic** acid; an adsorption step (c) wherein, to carry out the contact step (b), at least one parameter is selected for the reaction medium, said parameters being a pH no higher than 7, an ionic strength no higher than 10-2M, and a **temp.** lower than the polymer LCST; a sepn. step (d) wherein the dispersed phase is sepd. from the continuous phase, optionally after it has been obsd. that adsorption has occurred; and a desorption step (e) wherein the **nucleic** acid is desorbed from the particulate substrate by increasing the ionic strength until an ionic strength higher than 10-2M is achieved.

ST **nucleic** acid purifn adsorption polymer adsorbent; **DNA** purifn polymer adsorbent; **RNA** purifn polymer adsorbent

IT Adsorbents
Adsorption
Bacteria (Eubacteria)
Centrifugation
Crosslinking agents
Filtration
Ionic strength
Latex
Magnetic field
Magnetic particles
Nucleic acid hybridization
PCR (polymerase chain reaction)
Precipitation (chemical)
Purification
Sedimentation (separation)
Sols
Staphylococcus epidermidis
Temperature effects, biological
pH
(**nucleic** acids isolation using particulate adsorbents)

IT Polymers, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**nucleic** acids isolation using particulate adsorbents)

IT **DNA**
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(**nucleic** acids isolation using particulate adsorbents)
IT **Nucleic acids**
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(**nucleic** acids isolation using particulate adsorbents)
IT **RNA**
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(**nucleic** acids isolation using particulate adsorbents)
IT Albumins, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(serum; **nucleic** acids isolation using particulate adsorbents)
IT 9001-79-9D, **oligonucleotide** conjugates 9012-09-3D, Peroxidase, **oligonucleotide** conjugates 196824-73-8 196824-74-9
196824-75-1 196824-76-2 196824-77-3 196824-78-4 196824-79-5
196824-80-8
RL: ANS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**nucleic** acids isolation using particulate adsorbents)
IT 9003-53-6, Polystyrene 196824-46-1, Estapor K 20-07
RL: NUU (Other use, unclassified); USES (Uses)
(**nucleic** acids isolation using particulate adsorbents)
IT **79-06-1DP**, 2-Propenamide, derivs., polymers contg., preparation
79-06-1DP, 2-Propenamide, polymers contg., preparation
79-10-7DP, 2-Propenoic acid, derivs., polymers contg., preparation
79-41-4DP, derivs., polymers contg. 97-96-1DP, polymers contg.
110-26-9DP, polymers contg. 1218-19-3DP, polymers contg. 2420-94-2DP, 2-Aminoethyl methacrylate hydrochloride, polymers contg. 2675-94-7DP, N,N-Diethylacrylamide, polymers contg. 7318-08-9DP, N-Ethylmethacrylamide, polymers contg. 7378-18-3DP, N-n-Propyl methacrylamide, polymers contg. 10741-61-1DP, N-Isopropyl methacrylamide, polymers contg. 13268-54-8DP, N-Vinylpyridone, derivs., polymers contg. 25189-13-7DP, N-Propylacrylamide, polymers contg. 52628-25-8DP, N-Methyl-N-propylacrylamide, polymers contg. 87322-78-9DP, polymers contg. 94731-17-3DP, N-Cyclopropyl **acrylamide**, polymers contg. 196801-30-1P
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(**nucleic** acids isolation using particulate adsorbents)
IT 7647-01-0, USES
RL: RCT (Reactant); RACT (Reactant or reagent)
(**nucleic** acids isolation using particulate adsorbents)

=> d ans 15 1-5

L15 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:925376 HCAPLUS
TI Composite polynucleotide array
IN Andruss, Douglas A.; Shannon, Karen W.; Collins, Patrick J.; **Wolber, Paul K.**
PA **Agilent Technologies, Inc.**, USA
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C12Q001-68
ICS B01J019-00
CC 9 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1262[illegible]6	A2	20021204	EP 2002-253745	20020529
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2001-[illegible]0839	A	20010530		

AB A polynucleotide array, and methods of making and using such arrays. The array (i.e. may include a first set of multiple features (16a) each of which has first polynucleotide mols. of at least 400 nucleotides in length, and a second set of features (16b, each of which has second polynucleotide mols. of no more than 100 nucleotides in length. The second set of features (16b) can be used as control features, or to replace failed sequences in an enzymic amplification to produce first polynucleotides, or to detect polymorphisms or splice variants which may not be detected by a particular first polynucleotide.

L15 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:376041 HCAPLUS
DN 137:234344
TI Use of probes showing cross-hybridization in the selection and design of target-specific hybridization probes
IN **Wolber, Paul K.**; Kincaid, Robert H.
PA **Agilent Technologies, Inc., USA**
SO U.S., 39 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS C12N015-09; C07H021-02; C07H021-04
NCL 435006.00
CC 1-1 (Biochemical Genetics)
Section cross-reference(s): 9

FAN.CNT 1	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6461816	B1	20021008	US 1999-350969	19990709

AB Methods, reagents and kits are disclosed for selecting target-specific oligonucleotide probes, which may be used in analyzing a target nucleic acid sequence. In one aspect the present invention is directed to selecting a set of target-specific oligonucleotide probes. A cross-hybridization oligonucleotide probe is identified based on a candidate target-specific oligonucleotide probe for the target nucleic acid sequence. The cross-hybridization oligonucleotide probe measures the extent of occurrence of a cross-hybridization event having a predetd. probability. Cross-hybridization results are detd. employing the cross-hybridization oligonucleotide probe and the target-specific oligonucleotide probe. The target-specific oligonucleotide probe is selected or rejected for the set based on the cross-hybridization results. Use of three genes known to have sequence similarity to det. the effect of factors including mismatches and deletions on the extent of cross-hybridization is demonstrated. Hybridization to mismatched probes is found to be a poor predictor of cross hybridization.

ST hybridization probe design optimization; cross hybridization detn internal standard

IT Test kits
(for hybridization probe design; use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT Computer program
(for probe sequence optimization; use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT DNA sequences

(homol. of, in target-specific probe design; use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT Algorithm
(homol., for probe sequence optimization; use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT **Nucleic acid hybridization**
(discrimination of cross hybridization in; use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT **Probes (nucleic acid)**
RL: ANST (Analytical study); USES (Uses)
(use of probes showing cross-hybridization in selection and design of target-specific hybridization probes)

IT 466706-15-1 466706-16-1 466706-17-1 466706-18-2 466706-19-3
466706-20-4 466706-21-5 466706-22-6 466706-23-7 466706-24-8
466706-25-9 466706-26-0 466706-27-1 466706-28-2 466706-29-3
466706-30-6 466706-31-7 466706-32-8 466706-33-9 466706-34-0
466706-35-1 466706-36-2 466706-37-3 466706-38-4 466706-39-5
466706-40-8 466706-41-9 466706-42-0 466706-43-1 466706-44-2
466706-45-3 466706-46-4 466706-47-5 466706-48-6 466706-49-7
466706-50-0 466706-51-1 466706-52-2 466706-53-3 466706-54-4
466706-55-5 466706-56-6 466706-57-7 466706-58-8 466706-59-9
466706-60-2 466706-61-3 466706-62-4 466706-63-5 466706-64-6
466706-65-7 466706-66-8 466706-67-9 466706-68-0 466706-69-1
466706-70-4 466706-71-5 466706-72-6 466706-73-7 466706-74-8
466706-75-9 466706-76-0 466706-77-1 466706-78-2 466706-79-3
466706-80-6 466706-81-7 466706-82-8 466706-83-9 466706-84-0
466706-85-1 466706-86-2

PL: PRP (Properties)
(unclaimed nucleotide sequence; use of probes showing cross-hybridization in the selection and design of target-specific hybridization probes)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Arnold; US 5449603 A 1995 HCAPLUS
(2) Arnold; US 5565461 A 1996 HCAPLUS
(3) Chee; US 5837832 A 1998 HCAPLUS
(4) Chee; Science 1996, V274, P610 HCAPLUS
(5) Maitson; Nucleic Acids Research 1976, V7(6), P1541 HCAPLUS
(6) Sapolsky; US 5918659 A 1999 HCAPLUS
(7) Wodicka, L; Nature Biotechnology 1997, V15, P1359 HCAPLUS

L15 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:36767 HCAPLUS
DN 136:116874
TI Methods and device for multicentate arrays of multiple probes
IN **Wolber, Paul K.**
PA USA
SO U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C12Q001-68
NCL 435006.10
CC 1-1 Biochemical Genetics
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002013031	A1	20020426	US 1999-346655	19990701
	US 6461816	B2	20021015		

AB A method of evaluating for the presence of a target polynucleotide in a

sample, using an addressable array of multiple polynucleotide probes linked to a substrate. The sample is exposed to the array and a set of polynucleotide target probes, such that target polynucleotide which may be present will bind to a predetd. feature of the array through multiple target probes of the set by forming at resp. target regions on a target mol., simultaneous hybrids with anti-target regions of the multiple target probes. A binding pattern on the array is obsd. and the presence of the target polynucleotide evaluated based on the obsd. binding pattern. Kits using such arrays, and methods for selecting target probes are further provided.

ST microarray multiple probe hybridization app computer

IT Genetic element
PL: APS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(anti-target region and anti-rapture region in probes; methods and device for multidentate arrays of multiple probes)

IT DNA
PL: ANT (Analyte); ANST (Analytical study)
(complementary; methods and device for multidentate arrays of multiple probes)

IT Nucleic acids
PL: ANT (Analyte); ANST (Analytical study)
(detection of, from a sample; methods and device for multidentate arrays of multiple probes)

IT Computer application
Microarray technology
Nucleic acid hybridization
Test kits
(methods and device for multidentate arrays of multiple probes)

IT **Probes (nucleic acid)**
PL: APS (Analytical reagent use); ANST (Analytical study); USES (Uses)
(target and capture; methods and device for multidentate arrays of multiple probes)

IT 462690-56-8 462690-57-9 462690-58-0 462690-59-1 462690-60-4
462690-61-5 462690-62-6 462690-63-7 462690-64-8 462690-65-9
462690-66-0 462690-67-1 462690-68-2 462690-69-3 462690-70-6
462690-71-7 462690-72-8 462690-73-9 462690-74-0 462690-75-1
462690-76-2 462690-77-3 462690-78-4 462690-79-5 462690-80-8
462690-81-9 462690-82-0 462690-83-1 462690-84-2 462690-85-3
462690-86-4 462690-87-5 462690-88-6
PL: PRP (Properties)
(unclaimed nucleotide sequence; methods and device for multidentate arrays of multiple probes)

L15 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:444421 HCAPLUS
DN 135:16497
TI Graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization
IN Lange, Daniel H.; Sampas, Nicholas M.; **Wolber, Paul K.**; Yakhini, Zohar H.
PA **Agilent Technologies, Inc., USA**
SO U.S., 24 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS C12F019-34; G01N033-48
NCL 435091600
CC 3-1 Biochemical Genetics
Section cross-reference(s): 20

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI US 6403314 B1 20020611 US 2000-498708 20000204
AB A computational method and system for predicting the hybridization potential for two polymers. A probe/target interaction matrix is prepd. to contain indications of all possible probe/target subunit interaction stabilities. The probe target interaction matrix is analyzed to create a list of possible single-fragment hybridizations. A graph is then generated with vertices representing fragments, and edges representing possible hookups on one or both of the probe and target sequences that allow the pair of fragments interconnected by the edge to coexist within a multi-fragment cross-hybridization. Finally, the graph is analyzed to construct a list of all possible single-fragment and multi-fragment cross-hybridizations possible between the probe mol. and the target mol. The different hybridizations are scored and sorted by score.
ST computer program hybridization probe stability; cross hybridization probe algorithm prediction
IT **Nucleic acid hybridization**
(DNA-DNA; graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT **Nucleic acid hybridization**
(DNA-RNA; graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT **Nucleic acid hybridization**
(RNA-RNA; graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT **Probes (nucleic acid)**
RL: PRP (Properties)
(design of; graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT Computer program
Nucleic acid hybridization
(graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT Protein
RL: BOC (Biological study, unclassified); BIOL (Biological study)
(graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
IT Free energy
Thermodynamics
(of hybridization, as predictor of hybrid stability and properties; graph-based algorithm and software for predicting fragmented hybridization and for identifying potential cross-hybridization)
PE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Gray; US 5856103 A 1999 HCAPLUS
(2) Sharat; US 5871905 A 1999

L15 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:[illegible] HCAPLUS
DN 137:[illegible]
TI Probe microarrays with internal standards for determination of background hybridization
IN Dolganov, Glenda C.; **Wolber, Paul K.; Sana, Theodore R.**
PA USA
SO U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U.S. Ser. No. 398,399.
CODEN: USXXCO
DT Patent
LA English
IC ICM C12Q001-68
ICS C07H021-04; C12M001-34
NCL 435006.0
CC 3-1 (Biochemical Genetics)

Section cross-reference(s): 9

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020068393	A1	20020606	US 2001-899381	20010702
	US 2[illegible]	A1	20020502	US 1999-398399	19990917
PRAI	US 1999-398399	A2	19990917		

AB Nucleic acid arrays that have background features, and methods for using the same, are provided. The subject nucleic acid arrays include both hybridization features and defined background features, where the background features provide a background signal in a hybridization assay that is made up of a feature substrate component, a nucleic acid probe component and a nucleic acid probe non-specific binding component. In practicing the subject methods, the arrays are contacted with a sample and signals are obsd. for both hybridization features and background features. The background feature signal is then subtracted from the hybridization feature signal to obtain a background cor. hybridization feature signal that is employed as the output of the assay, e.g., to det. the presence, either qual. or quant., of the analyte target nucleic acid in the sample. The probes for detn. of background hybridization may fail to hybridize for a variety of reasons including structure, conformation, sequence, presence of base analogs, or the presence of abasic regions. Also provided are kits for use in practicing the subject methods. Probes intended to hybridize to the human glyceraldehyde-3-phosphate dehydrogenase were tested and a no. that did not hybridize to their targets in microarrays were identified. These probes and their targets were used to det. the minimal hybridization in a microarray. Probes forming internal hairpin loops were also found to be effective in detg. background hybridization.

ST nucleic acid hybridization background signal estn; microarray hybridization background hybridization probe and

IT Confirmation
(DNA, of probes for detg. background hybridization levels; probe microarrays with internal stds. for detn. of background hybridization)

IT Standard substances, analytical
(biol., control probes, for detn. of background hybridization; probe microarrays with internal stds. for detn. of background hybridization)

IT Conformation
(hairpin loop, of probes for detg. background hybridization levels; probe microarrays with internal stds. for detn. of background hybridization)

IT **DNA microarray technology**
Human
Nucleic acid hybridization
Test kits
(probe microarrays with internal stds. for detn. of background hybridization)

IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(probe microarrays with internal stds. for detn. of background hybridization)

IT 1[illegible]-19-6, GenBank M33914 142786-31-0, GenBank X56062 186681-80-1, GenBank U68571 190182-42-1, GenBank AF015342 331529-35-4, DNA (human glyceraldehyde-3-phosphate dehydrogenase cDNA)
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(nucleotide sequence, probe for detn. of background hybridization in microarrays derived from; probe microarrays with internal stds. for detn. of background hybridization)

IT 1[illegible]-65-6 96492-[illegible]-1 417708-22-6 433568-46-8 433568-47-9
433568-48-0 433568-49-1 433568-50-4 433568-51-5 433568-52-6
433568-53-7 433568-54-8 433568-55-9 433568-56-0 433568-57-1

433568-58-2 433568-59-3 433568-60-6 433568-61-7 433568-62-8
433568-63-9 433568-64-0 433568-65-1 433568-66-2 433568-67-3
433568-68-4 433568-69-5 433568-70-8 433568-71-9 433568-73-0
433568-74-1 433568-75-2 433568-76-4 433568-77-5
433568-78-6 433568-79-7 433568-80-0 433568-81-1 433568-82-2
433568-83-3 433568-84-4 433568-85-5 433568-86-6 433568-87-7
RL: ANS (Analytical reagent use); PEP (Properties); ANST (Analytical study); USES (Uses)
(nucleotide sequence, probe for detn. of background hybridization in microarrays; probe microarrays with internal stds. for detn. of background hybridization)

L15 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:536196 HCAPLUS
DN 136:336196
TI Improved detection and analysis in nucleic acid hybridization assays by reliable estimation of background signal
IN Heinstein, Glenda C.; Jeffkowitz, Steven M.; Luecke, Kevin J.; Overman, Dexter B.; Sampras, Nicholas M.; Sampson, Jeffery R.; **Wolber, Paul K.**
PA USA
SO U.S. Pat. Appl. Publ., 41 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C12Q001-68
ICS C12Q002-06; C12P021-02; C07H021-02; C12P021-06; G01N033-00; C12M001-34; B01D011-00; C12M003-00; G01N033-53
NCL 435091.200
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002051978	A1	20020502	US 1998-208299	19981207
	US 6548256	B2	20030415	US 2001-839781	20010420
PRAI	US 1998-208299	A2	19981207		

AB Methods and test kits for substantially improved detection and anal. in nucleic acid hybridization assays are described. The methods provide the reliable estn. of background signal which derives primarily from nonspecific hybridization. Accordingly, in one embodiment, the invention provides a set of features comprising oligophosphodiester probes, comprising hybridization probes that selectively hybridize to a detectably labeled target nucleotide sequence, and background features comprising background probes that do not selectively hybridize to the target nucleic acid sequence, and formats wherein the probes may be in soln. or are bound to a surface. In an addnl. preferred embodiment, the method involves the use of background probes that mimic nonspecific binding, without preventing the binding of target to the hybridization probes. In more preferred embodiments, the background probe is selected from the group consisting of empirically detd. inactive probes, probes forming stable intramol. structures, short probes, probes comprising reverse polarity nucleotide analogs and probes comprising abasic phosphodiesters or modified nucleotidic units.
ST nucleic acid hybridization background signal estn
IT Luminescence spectroscopy
(bioluminescence, for signal detection; improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)
IT Chemiluminescence spectroscopy
Colorimetry
Fluorometry
(for signal detection; improved detection and anal. in nucleic acid

hybridization assays by reliable estn. of background signal)

IT Conformation
(hairpin loop, background probes having; improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)

IT **Nucleic acid hybridization**
Test kits
(improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)

IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)

IT 417738-20-7 417739-04-9 417739-05-0 417739-06-1 417739-07-2
417739-09-4 417739-09-4 417739-10-7 417739-11-8 417739-12-9
417739-13-0 417739-14-1 417739-15-2 417739-16-3 417739-17-4
417739-18-5 417739-19-6 417739-20-9 417739-21-0 417739-22-1
417739-23-2 417739-24-3 417739-25-4

RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(probe nucleotide sequence; improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)

IT 417741-41-1 417741-42-2

RL: PRP (Properties)
(unclaimed sequence; improved detection and anal. in nucleic acid hybridization assays by reliable estn. of background signal)

L15 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:185164 HCAPLUS
DN 136:142971
TI Human and murine nucleic acids encoding protein products able to modulate physiology or development
IN Barham, Christi L.; Berman, Daniel M.; Kurata, Hirokazu; Arai, Naoko; **Sana, Theodore R.**; Mattson, Jeanine D.; Murphy, Erin E.; Savkoor, Chetan; Orrin, Jeffery; Smith, Kathleen M.; McClanahan, Terrill K.
PA Schering Corporation, USA
SO PCT Int. Appl., 211 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07K014-00
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 6, 13, 63

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002012469	A2	20020214	WO 2001-US23013	20010907
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001-94941	A5	20020222	AU 2001-94941	20010907
US 2002119459	A1	20020829	US 2001-949192	20010907
PRAI US 2000-231378P	P	20000908		
WO 2001-US23013	W	20010907		

AB Nucleic acids encoding mammalian, e.g., human or mouse, genes, purified proteins and fragments thereof, are provided. Among them is an interferon receptor-like subunit designated DNAX interferon receptor family subunit 4 (DIFS4), having particular defined properties, both structural and biol. Others include mols. designated TNFx and TNFy; Toll-like receptor mols. TLR-L1, TLR-L2, TLR-L3, TLR-L4, and TLR-L5; TSFx; 56850; claudins D2, D8, D17, and D18; and scralatens B, C, D, E, and F. Cloning of full-length cDNAs, chromosomal localization, and localization of expression in various tissues, cells, and diseases are provided. Antibodies, both polyclonal and monoclonal, are also provided. Methods of using the compns. for both diagnostic and therapeutic utilities are provided.

ST protein cDNA sequence human mouse

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(56850; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(DIFS4 (DNAX interferon-like receptor subunit 4); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TSFx; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TLR-L1 (Toll-like receptor-like mol. L1); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TLR-L2 (Toll-like receptor-like mol. L2); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TLR-L3 (Toll-like receptor-like mol. L3); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TLR-L4 (Toll-like receptor-like mol. L4); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(TLR-L5 (Toll-like receptor-like mol. L5); human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TIRR; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(TNFy; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 1; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 10; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 2; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 3; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 4; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 5; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 6; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 7; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 8; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, 9; human and murine nucleic acids encoding protein products able to modulate physiol. or development

IT Proteins
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claudins, schlafen E; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Animal cell line
Animal tissue
(expression profiles in; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Genetic mapping
Human
Mouse
Nucleic acid hybridization
PCR (polymerase chain reaction)
Phage display library
Protein sequences
cDNA sequences
(human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Synthetic gene
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Primers (nucleic acid)
Probes (nucleic acid)
RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Antibodies
Immune complexes
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Chromosome
(human, gene localization on; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Animal cell
(mammalian, recombinant host; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Development, mammalian postnatal
Physiology, animal
(modulation of; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT Bacteria (Eubacteria)
Insecta
Primates
Yeast
(recombinant host; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

IT 403781-43-0P 403781-44-1P, Protein TMEx (human) 403781-46-4P, Protein TMEx (mouse) 403781-48-6P, Protein TMEy (human C-terminal fragment)
403781-50-0P 403781-51-1P 403781-54-4P 403781-56-6P 403781-58-8P
403781-61-2P 403781-63-4P 403781-64-5P, Protein TMEx (human)
403781-66-7P, Protein 5695C6 (human) 403781-68-9P, Protein 5695C6 (mouse) 403781-70-3P, Claudin D2 (mouse) 403781-72-5P, Claudin D8 (human) 403781-74-7P, Claudin D17 (human) 403781-76-0P, Claudin D7.2 (human) 403781-78-2P, Schlafen E (human) 403781-80-6P, Schlafen C (human) 403781-82-8P, Schlafen D (human) 403781-84-0P, Schlafen E

(human) 403781-86-2P, Schlafen F (human) 403781-88-4P, Protein TNFy (mouse)
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; human and murine nucleic acids encoding protein products able to modulate physiol. or development)
IT 403781-41-0P 403781-43-1P, DNA (human protein TNFx cDNA) 403781-45-3P 403781-47-4P 403781-49-7P 403781-51-1P 403781-53-3P 403781-55-5P 403781-57-7P 403781-59-9P 403781-61-3P 403781-63-5P, DNA (human protein TNFx cDNA) 403781-65-7P 403781-67-9P 403781-69-1P, DNA (human claudin D2 cDNA) 403781-71-5P, DNA (human claudin D8 cDNA plus flanks) 403781-73-7P 403781-75-9P, DNA (human claudin D7.2 cDNA) 403781-77-1P, DNA (human schlafen B cDNA) 403781-79-3P, DNA (human schlafen C cDNA) 403781-81-7P, DNA (human schlafen D cDNA) 403781-83-9P, DNA (human schlafen E cDNA) 403781-85-1P, DNA (human schlafen F cDNA) 403781-87-3P, DNA (mouse protein TNFy cDNA)
RL: ANT (Analyte); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; human and murine nucleic acids encoding protein products able to modulate physiol. or development)
IT 403784-35-8 403784-36-9 403784-37-0 403784-38-1 403784-39-2
RL: PRP (Properties)
(unclassified protein sequence; human and murine nucleic acids encoding protein products able to modulate physiol. or development)

L15 ANSWER 9 OF 11 REGAPLUS COPYRIGHT 2002 ACS
AN [illegible]:[illegible] REGAPLUS
DN 136:[illegible]
TI Array-based methods for synthesizing nucleic acid mixtures
IN **Wolber, Paul K.**; Pinkel, Robert H.; Andrese, Douglas A.; Lipshutz, Diane B.; Atwell, Andrew S.
PA **Agilent Technologies, Inc., USA**
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
IC [illegible]
[illegible]
CC [illegible]
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP [illegible]	A2	[illegible]	EP 2001-306575	20010731
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR, SI, RO				
PRAI US 2000-[illegible]	A	20000731		

AB Methods for generating mixts. of nucleic acids, e.g., oligonucleotide primers, are provided. In the subject methods, an array is employed as template to generate mixts. of nucleic acids via a template driven primer extension reaction. In preferred embodiments, each probe on the array employed in the subject methods comprises a const. domain and a variable domain, where the const. domain is further characterized by having at least 1 recognition domain. Also provided are the arrays employed in the subject methods and kits for practicing the subject methods. The subject methods find use in a variety of applications, including the generation of target nucleic acids from an mRNA sample for use in hybridization assays, e.g., differential gene expression analyses.
ST nucleic acid probe DNA array oligonucleotide primer
IT Primers (nucleic acid)
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(DNA, universal; array based methods for synthesizing nucleic acid mixts.)

IT Promoter (genetic element)
RL: BIU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(DNA polymerase, functional domain as; array based methods for synthesizing nucleic acid mixts.)

IT **DNA microarray technology**
Immobilization, molecular
Nucleic acid hybridization
Test kits
(array based methods for synthesizing nucleic acid mixts.)

IT Oligodeoxyribonucleotides
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(array based methods for synthesizing nucleic acid mixts.)

IT Nucleic acids
RL: PRP (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(array based methods for synthesizing nucleic acid mixts.)

IT rRNA
RL: BIU (Biological study, unclassified); BIOL (Biological study)
(array based methods for synthesizing nucleic acid mixts.)

IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(array of; array based methods for synthesizing nucleic acid mixts.)

IT Genetic element
RL: BIU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(complement variable domain; array based methods for synthesizing nucleic acid mixts.)

IT Genetic element
RL: BIU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(const. domain; array based methods for synthesizing nucleic acid mixts.)

IT Transcription, genetic
(in vitro; array based methods for synthesizing nucleic acid mixts.)

IT PCR (polymerase chain reaction)
(linker; array based methods for synthesizing nucleic acid mixts.)

IT Genetic element
RL: BIU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(linker domain; array based methods for synthesizing nucleic acid mixts.)

IT DNA
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(primer, universal; array based methods for synthesizing nucleic acid mixts.)

IT Genetic element
RL: BIU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(recognition domain; array based methods for synthesizing nucleic acid mixts.)

IT Nucleic acid amplification (method)
(strand displacement; array based methods for synthesizing nucleic acid mixts.)

IT 9074-06-5, Restriction endonuclease
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(recognition domain, recognized by; array based methods for synthesizing nucleic acid mixts.)

IT 396832-75-0 396832-76-1, 2: PN: EP1180548 SEQID: 1 unclaimed DNA
FL: BRP (Properties)
(unclaimed nucleotide sequence; array based methods for synthesizing nucleic acid mixts.

L15 ANSWER 9 OF 1. BIOSIS COPYRIGHT 2003 ACS
AN 2001:635107 BIOSIS
DN [illegible]
TI Estimation of the confidence limits of oligonucleotide-array-based measurements of differential expression
AU Lobenhofer, Brandi; Gaitelli, Herb; Chen, Chao; Dorsel, Andreas N.; Driscoll, Robert H.; Nguyen, Khanh; Samper, Nicholas M.; Schidel, Shad; Shannon, Karen W.; Tu, Andrea; **Wolber, Paul K.**
CS **Agilent Technologies, Palo Alto, CA, 94304, USA**
SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4266(Microarrays: Optical Technologies and Informatics), 120-131 CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC [illegible] (Biochemical Genetics)
AB Microarrays can be used to simultaneously measure the differential expression states of many mRNA's in two samples. Such measurements are limited by systematic and random errors. Systematic errors include labelling bias, imperfect feature morphologies, mismatched sample conens., and cross-hybridization. Random errors arise from chem. and scanning noise, particularly for low signals. We have used a combination of error-controlled two- color labeling and improved normalization methods to minimize systematic errors from labeling bias, imperfect features, and mismatched sample conens. On-array specificity control probes and exptl. proven probe design algorithms were used to correct for cross-hybridization. Random errors were reduced via automated non-uniform feature flagging and an advanced scanner design. We have scored feature significance, using established statistical tests. We have then estd. the intrinsic random measurement errors as a function of av. probe signal via sample self-comparison expts. (human K-562 cell mRNA). Finally, we have combined all of these tools in the anal. of differential expression measurements between K-562 cells and HeLa cells. The results establish the importance of the elimination of systematic errors and the objective assessment of the effects of random errors in producing reliable ests. of differential expression.
ST oligonucleotide array scanner data medn statistics
IT Oligonucleotides
FL: ARU (Analytical role, unclassified); ANST (Analytical study)
(-based microarray anal.; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Data processing
(Feature Extn., in which backgrounds, outliers, are calcd. by math. anal. of digitized images; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Fluorimetry
(array scanner; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Statistical analysis
(calcn. of confidence limits; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT **Nucleic acid hybridization**
(cross-hybridization correction; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Gene
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
expression, differential expression anal.; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)

IT Optical scanners
(fluorimetry of two-color probes, redn. of random error; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Computer application
(graphics, display of scanned image and graphical representations of statistical anal.; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT **Microarray technology**
(oligonucleotide; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Algorithm
(pixel anal. of scanned image; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Error
(random, redn. of; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT Error
(systematic, redn. of; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
IT **Probes (nucleic acid)**
PL: APC (Analytical reagent use); ANST (Analytical study); USES (Uses)
(two-color design of; estn. of confidence limits of oligonucleotide-array-based measurements of differential expression)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bevington, P; Data reduction and mathematical analysis for the physical sciences 1969, P64
(2) Blanchard, A; Biosensors & Bioelectronics 1996, V11(6/7), P687 HCAPLUS
(3) Shannon, R; US 6132997 2000 HCAPLUS

L15 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:[illegible] HCAPLUS
DN 135:[illegible]
TI A scanning device for analysis of microchip hybridization with improved detection of low-level signals
IN **Wolber, Paul K.**
PA **Agilent Technologies, Inc., USA**
SO U.S., 27 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G12Q0001-68
ICS G01N021-19
NCL 435[illegible]
CC 1-1 Biochemical Genetics
Section cross-reference(s): 9
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6281465	B1	20010304	US 1999-292289	19990415

AB An app., systems and method for locating nucleic acids in an array on a substrate have self-locating nucleic acid features. The nucleic acid features provide nucleotide-dependent location signals or optically detectable contrast between nucleotide-bound regions and non-nucleotide-bound regions of the substrate when scanned by an optical scanner. When used as anal. tools for monitoring gene expression and mutations in gene sequences, the nucleotide features are hybridized with nucleic acids of unknown or unknown sequences. The app., systems and method locate both weakly and strongly hybridized nucleotide features on the substrate for identification of target nucleic acid sequences. The nucleotide feature signals or contrast are independent of the optical signals conventionally produced by the hybridized nucleotides. Therefore,

the app., systems and method locate all of the nucleotide features, hybridized or not, independently of the extent of hybridization. The present invention advantageously self-locates both bright and dim hybridized features on an array substrate and is therefore, independent of the random and systematic errors assocd. with the manufg. equipment and processes. The device also accurately detects spots with different morphologies, such as oval, elliptical, or crescent shapes. Moreover, the present invention provides a powerful quality control tool to the in situ synthesis process. The present invention provides information about what part or percentage of each feature contains full-length probes. The present optical scanning system detects optical signals from the nucleotide features independently of the signals from the hybridized nucleotides using essentially conventional scanning technol. The independently detected signals are processed such that all features are located and the hybridized features are accurately detected and analyzed.

ST imaging device microchip hybridization signal sensitivity

IT Light scattering
(detn. and elimination of, in probe array scanning; scanning device for anal. of microchip hybridization with improved detection of low-level signals)

IT **DNA microarray technology**
Fluorometry
Optical imaging devices
(scanning device for anal. of microchip hybridization with improved detection of low-level signals)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anon; WO 0034523 A1 HCAPLUS
(2) Chetsin; US 6045996 A HCAPLUS
(3) Dixon; US 5770721 A
(4) Dorsel; US 5814565 A
(5) Fodor; US 5800992 A HCAPLUS
(6) Lipshutz; US 5856174 A
(7) Rava; US 5981176 A HCAPLUS
(8) Sadler; US 5763870 A
(9) Trulli; US 5721435 A HCAPLUS
(10) Trulson; US 5578832 A HCAPLUS

L15 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:366294 HCAPLUS
DN 131:71109
TI Algorithmic methods for evaluating oligonucleotides for use as probes for a target sequence
IN Shannon, Karen W.; **Wolber, Paul K.**; Delenstarr, Glenda C.; Webb, Peter G.; Rinaldi, Robert H.
PA **Agilent Technologies, Inc., USA**
SO U.S., 34 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
NCL 435006.000
CC 1-1 (Biochemical Genetics)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6136539	B1	20001024	US 1998-21701	19980210

AB Methods are disclosed for predicting the potential of an oligonucleotide to hybridize to a target nucleotide sequence. A predetd. no. of unique oligonucleotides is identified. The unique oligonucleotides are chosen to sample the entire length of a nucleotide sequence that is hybridizable with the target nucleotide sequence. At least one parameter that is independently predictive of the ability of each of the oligonucleotides of

the set to hybridize to the target nucleotide sequence is detd. and evaluated for each of the above oligonucleotides. A subset of oligonucleotides within the predetd. no. of unique oligonucleotides is identified based on the evaluation of the parameter. Oligonucleotides in the subset are identified that are clustered along a region of the nucleotide sequence that is hybridizable to the target nucleotide sequence. The method may be carried out with the aid of a computer.

ST hybridization probe design algorithm; simulation modeling hybridization probe design

IT Computer program
Statistical analysis
(algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT **Probes (nucleic acid)**
RL: PEP (Properties)
(algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Oligonucleotides
RL: PEP (Properties)
(as probes, algorithmic screening and design of; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Conformation
(hairpin loop, of oligonucleotides, in evaluation of utility as probe; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Molecular modeling
Simulation and Modeling, physicochemical
(in probe design; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Simulation and Modeling, physicochemical
(mol. dynamics, in probe design; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Conformation
(nucleic acid, of oligonucleotides, in evaluation of utility as probe; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Reaction kinetics
(of hybridization, simulation of in probe design; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT Entropy
Entropy
Free energy
Thermodynamics
(of probe interaction with target, in probe design and optimization; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT **DNA microarray technology**
(probe design for; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT **Nucleic acid hybridization**
(probe optimization in; algorithmic methods for evaluating oligonucleotides for use as probes for target sequence)

IT 10[illegible]-[illegible]-1 11[illegible]-55-4 12[illegible]-39-[illegible] 12[illegible]-41-7 1357[illegible]-08-2
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FL: [FP [Properties]
(unclaimed nucleotide sequence; algorithmic method for evaluating oligonucleotides for use as probes or a target sequence

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PL: PRP (Properties)

Unclaimed nucleotide sequences; algorithms for evaluating oligonucleotides for use as probes for a target sequence)

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PL: PPP (Properties)

(Unclaimed nucleotide sequences; algorithmic methods for evaluating oligonucleotides for use as probes for a target sequence)

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RE: PRP (Properties
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AN 2001:366054 HCAPLUS
DN 134:362109
TI Molecular genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses
IN **Wolber, Paul K.**; Shannon, Karen W.
PA **Agilent Technologies, Inc., USA**
SO U.S., 18 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS C07H021-04; C07H021-04; C12Q027-00
NCL 435/091.2
CC 3-1 Biochemical Genetics
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20010012613	A1	20010809	US 2001-861035	20010518
PRAI US 2000-495152	A2	20000131		

AB The invention provides a mol. genetics approach for indirect fluorescent labeling of target nucleic acids (such as mRNA), which can be used in gene expression analyses. The approach involves: (1) labeling targeted nucleic acid mols. with an oligonucleotide tag using a primer-tag-promoter; (2) labeling of oligonucleotides that are complementary to tagged target nucleic acids with fluorescent dyes; and (3) allowing the oligonucleotide-tagged nucleic acids to hybridize with fluorescently-labeled oligonucleotides complementary to said oligonucleotide tags. For gene expression analyses, a three part hybridization complex is used which comprises: (1) oligonucleotide-tagged targeted nucleic acid mols.; (2) labeled oligonucleotides complementary to tagged nucleic acids; and (3) anchor probe oligonucleotides, which hybridize to non-tag regions of said tagged target nucleic acids. The mol. approach was demonstrated in detecting genes expressed in two different yeast cells.

ST fluorescent indirect labeling target mRNA gene expression analysis

IT **Nucleic acid hybridization**
(DNA-RNA; mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

IT Primers (nucleic acid)
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(RNA; used to generating an oligonucleotide tagged target nucleic acid, contains oligo dT region and a RNA polymerase promoter)

IT Gene expression
(expressed; mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

IT **Probes (nucleic acid)**
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(hybridized to non-tag region of oligonucleotide tagged target nucleic acid; mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

IT Oligonucleotides
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(labeled, fluorescent dye labeled, complementary to tagged target; approach for indirect fluorescent labeling of target mRNA, use of oligonucleotide-tagged target nucleic acids, and labeled oligonucleotides complementary to tagged targets)

IT **DNA microarray technology**
Fluorescent dyes
(mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

IT mRNA
RL: ANT (Analyte); ANST (Analytical study)
(mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

IT DNA
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(primer; used in generating an oligonucleotide tagged target nucleic acid, contains oligo dT region and a RNA polymerase promoter)

IT Nucleic acids
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(tagged with oligonucleotide; mol. genetics approach for indirect fluorescent labeling of target mRNA, use of oligonucleotide-tagged target nucleic acids, and labeled oligonucleotides complementary to tagged targets)

IT Promoter (genetic element)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(used to generating an oligonucleotide tagged target nucleic acid, contains oligo dT region and a RNA polymerase promoter)

IT Oligonucleotides
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(used to tag target nucleic acid; mol. genetics approach for indirect fluorescent labeling of target mRNA, use of oligonucleotide-tagged target nucleic acids, and labeled oligonucleotides complementary to tagged targets)

IT 340332-42-5, 1: PN: WO9835058 SEQID: 1 unclaimed DNA 340332-43-6, 2: PN: US6033868 SEQID: 2 unclaimed DNA 340332-44-7 340332-45-8
RL: PRP (Properties)
unclaimed oligonucleotide sequence; mol. genetics approach for indirect fluorescent labeling of target mRNA, and use of approach in gene expression analyses)

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD

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FILE 'BIOSIS' ENTERED AT 07:57:02 ON 11 DEC 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 4 December 2002 (20021204/ED)

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L151 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2002:620217 BIOSIS
DN PREV200200620217
TI Multidentate arrays.
AU **Wolber, Paul K.**
CS ASSIGNEE: Agilent Technologies, Inc.
PI US [illegible] October 15, 2002
SO Official Gazette of the United States Patent and Trademark Office Patents, Oct. 15, 20[illegible] Vol. 126[illegible], No. 3, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB A method for validating for the presence of a target polynucleotide in a sample, using an addressable array of multiple polynucleotide probes linked to a substrate. The sample is exposed to the array and a set of polynucleotide target probes, such that target polynucleotide which may be present will bind to a predetermined feature of the array through multiple

target probes of the set by forming at respective target regions on a target molecule, simultaneous hybrids with anti-target regions of the multiple target probes. A binding pattern on the array is observed and the presence of the target polynucleotide evaluated based on the observed binding pattern. Kits using such arrays, and methods for selecting target probes are further provided.
NCL 435.6; 536
CC Genetics and Cytogenetics - General 03502
IT Major Concepts
Equipment, Apparatus, Devices and Instrumentation; Molecular Genetics (Biochemistry and Molecular Biophysics)
IT Chemicals & Biochemicals
polynucleotide target probes
IT Methods & Equipment
multidentate arrays: laboratory equipment

L151 ANSWER 9 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2002:611065 BIOSIS
DN PREV200200611065
TI Method for controlling cross-hybridization in analysis of nucleic acid sequences.
AU **Wolber, Paul K.**; Pinnard, Robert E.
ASSIGNEE: Agilent Technologies, Inc.
PI US 6451536 September 17, 2002
SO Official Gazette of the United States Patent and Trademark Office Patents, (Sept. 17, 2002) Vol. 1263, No. 2, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB Methods, reagents and kits are disclosed for selecting target-specific oligonucleotide probes, which may be used in analyzing a target nucleic acid sequence. In one aspect the present invention is directed to selecting a set of target-specific oligonucleotide probes. A cross-hybridization oligonucleotide probe is identified based on a candidate target-specific oligonucleotide probe for the target nucleic acid sequence. The cross-hybridization oligonucleotide probe measures the extent of occurrence of a cross-hybridization event having a predetermined probability. Cross-hybridization results are determined employing the cross-hybridization oligonucleotide probe and the target-specific oligonucleotide probe. The target-specific oligonucleotide probe is selected or rejected for the set based on the cross-hybridization results.
NCL 435/6.12
CC Biochemical Studies - General 01060
IT Major Concepts
Biochemistry and Molecular Biophysics; Methods and Techniques
IT Chemicals & Biochemicals
cross-hybridization oligonucleotide probe: identification
IT Methods & Equipment
cross-hybridization controlling method: biochemical method; cross-hybridization oligonucleotide probe identification: identification method; nucleic acid sequence analysis: analytical method

L151 ANSWER 10 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2002:382786 BIOSIS
DN PREV200200382786
TI Computational method and system for predicting fragmented hybridization and for identifying potential cross-hybridization.
AU Lange, Daniel H. (1); Sampas, Nicholas M.; **Wolber, Paul K.**; Yakhini, Zohar H.
CS (1) Rifar Tradim Israel
ASSIGNEE: Agilent Technologies, Inc.

PI US 6403314 June 11, 2002
SO Official Gazette of the United States Patent and Trademark Office Patents, (June 11, 2002) Vol. 1254, No. 2, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB A computational method and system for predicting the hybridization potential for two polymers. A probe/target interaction matrix is prepared to contain indications of all possible probe/target subunit interaction stabilities. The probe/target interaction matrix is analyzed to create a list of possible single-fragment hybridizations. A graph is then generated with vertices representing fragments, and edges representing possible loops in one or both of the probe and target sequences that allow the pair of fragments interconnected by the edge to coexist within a multi-fragment cross-hybridization. Finally, the graph is analyzed to construct a list of all possible single-fragment and multi-fragment cross-hybridizations possible between the probe molecule and the target molecule. The different hybridizations are scored and sorted by score.
NCL 435/006.000
CC General Biology - Information, Documentation, Retrieval and Computer Applications *00330
Biochemical Studies - General *10060
IT Major Concepts
Chemistry; Computer Applications (Computational Biology); Methods and Techniques
IT Methods & Equipment
hybridization prediction: miscellaneous method

L151 ANSWER 4 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2002:74145 BIOSIS
DN PREV200200074145
TI Human receptor proteins; related reagents and methods.
AU Timans, Jacqueline C. (1); Debets, Johannes Eduard Maria Antonius; **Sana, Theodore R.**; Bazan, J. Fernando; Kastelein, Robert A.
CS (1) Mountain View, CA USA
ASSIGNEE: Schering Corporation
PI US 6326472 December 04, 2001
SO Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 4, 2001) Vol. 1253, No. 1, pp. No Pagination.
http://bgs.uspto.gov/pub/patdata/. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB Isolated acids encoding mammalian, e.g., human receptors, purified receptor proteins and fragments thereof. Antibodies, both polyclonal and monoclonal, are also provided. Methods of using the compositions for both diagnostic and therapeutic utilities are provided.
NCL 530/350.000
CC Biochemical Studies - General *10060
Immunology and Immunochemistry - General; Methods *34502
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Chemicals & Biochemicals
human receptor proteins; monoclonal antibodies; polyclonal antibodies

L151 ANSWER 5 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2001:528512 BIOSIS
DN PREV200100528512
TI High-throughput microarray analysis: Automated multi-array scanning and feature extraction.
AU Cattell, Mark (1); Delenstarr, Glenda (1); Enderwick, Cynthia (1); Kincaid, Robert (1); Sampas, Nick (1); Sillman, Debby (1); **Wolber,**

Paul (1)

CS (1) Bioscience Products, Agilent Technologies, Palo Alto, CA USA

SO International Genome Sequencing and Analysis Conference, (2000) Vol. 12, pp. 104. print.
Meeting Info.: 12th International Genome Sequencing and Analysis Conference Miami Beach, Florida, USA September 12-15, 2000

DT Conference

LA English

SL English

AB The analysis of microarrays has historically been an interactive task requiring the user to manually scan and feature extract each array individually. Typical points of user interaction include defining the scan area, aligning a grid to enable the feature finding process, flagging anomalous features and/or regions within the array, and the management of various files including design or layout files, scan files, and results files. We designed an automated feature extraction system around our low detection limit, dual laser fluorescent scanner with autoloading capability. This approach allows the user to load a carousel with arrays and 'walkaway' from the system, which is left to scan and feature extract unattended in a pipelined fashion. The user returns later to find all arrays scanned, extracted and processed, and ready for further analysis. Through the use of fiducials and barcodes, which together define the scan area and locate the array in the scanned image, our system simplifies image processing and eliminates file management issues. Automated methods in the feature extractor replace the remaining interactive steps such as feature finding and flagging of outlier features. The processed results include normalized signals, gene expression ratios, and associated errors and p-values that can be used in downstream analysis.

CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00820
Genetics and Cytogenetics - General *03502
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines *10062

IT Major Concepts
Equipment, Apparatus, Devices and Instrumentation; Genetics; Methods and Techniques

IT Chemicals & Biochemicals
DNA; mRNA [messenger RNA]; microarray

IT Methods & Equipment
PCR [polymerase chain reaction]; DNA amplification, amplification method; automated multi-array scanning; genetic analysis, genetic method; fluorescence detection; detection method, staining; gene sequencing; cycle DNA sequencing, sequencing method; high density microarray analysis; genetic analysis, genetic method; high-throughput microarray analysis; genetic analysis, genetic method

IT Miscellaneous Descriptors
data visualization; gene expression; genome; Meeting Abstract; Meeting Poster

L151 ANSWER 6 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN **2001:519296** BIOSIS

DN **PREV200100519296**

TI Apparatus, systems and method for locating nucleic acids bound to surfaces.

AU **Wolber, Paul K.**
AFFILIATES: Agilent Technologies, Inc.

PI US 6284465 September 04, 2001

SO Official Gazette of the United States Patent and Trademark Office Patents, (Sep. 4, 2001) Vol. 1250, No. 1, pp. No Paginations. e-file.
ISSN: 0098-1133.

DT Patent

LA English

AB An apparatus, systems and method for locating nucleic acids in an array on a substrate have self-locating nucleic acid features. The nucleic acid

features produce nucleotide-dependent location signals or optically detectable contrast between nucleotide-bound regions and non-nucleotide-bound regions of the substrate when scanned by an optical scanner. When used as analytical tools for monitoring gene expression and mutations in gene sequences, the nucleotide features are hybridized with nucleic acids of known or unknown sequences. The apparatus, systems and method locate both weakly and strongly hybridized nucleotide features on the substrate for identification of target nucleic acid sequences. The nucleotide feature signals or contrast are independent of the optical signals conventionally produced by the hybridized nucleotides. Therefore, the apparatus, systems and method locate all of the nucleotide features, hybridized or not, independently of the extent of hybridization. The present invention advantageously self-locates both bright and dim hybridized features on an array substrate and is therefore, independent of the random and systematic errors associated with the manufacturing equipment and processes. Moreover, the present invention provides a powerful quality control tool to the in situ synthesis process. The present invention provides information about what part or percentage of each feature contains full-length probes. The present optical scanning system detects optical signals from the nucleotide features independently of the signals from the hybridized nucleotides using essentially conventional scanning technology. The independently detected signals are processed such that all features are located and the hybridized features are accurately detected and analyzed.

NCL 435/6.00

IT Major Concepts
Equipment, Apparatus, Devices and Instrumentation; Methods and Techniques; Molecular Genetics (Biochemistry and Molecular Biophysics)

IT Chemicals & Biochemicals
nucleic acids

IT Methods & Equipment
nucleic acid locating apparatus: laboratory equipment; nucleic acid locating system: laboratory equipment; nucleic acid location: analytical method

L151 ANSWER 7 OF 9 BIOSIS COPYRIGHT 2000 BIOLOGICAL ABSTRACTS INC.

AN **2001:516854** BIOSIS

DN **PREV200100516854**

TI Estimation of the confidence limits of oligonucleotide array-based measurements of differential expression.

AU **Wolber, Paul K. (1)**; Atwell, Andrew T. (1); Enderwick, Cynthia T. (1); Helenstairr, Glenda C. (1); Dorsel, Andreas N. (1); Shannon, Karen W. (1); Kincaid, Robert H. (1); Chen, Chao (1); Schidel, Shas B. (1); Aschoff, Michael F. (1)

CS (1) Agilent Technologies, Palo Alto, CA USA

SO International Genome Sequencing and Analysis Conference, (2000) Vol. 12, pp. 3 pp. print.
Meeting Info.: 12th International Genome Sequencing and Analysis Conference Miami Beach, Florida, USA September 12-15, 2000

DT Conference

LA English

SL English

AB Microarrays of oligonucleotide probes can be used to simultaneously infer the differential expression states of many mRNA's in two samples. Such inferences are limited by systematic and random measurement errors. Systematic errors include signal gradients, imperfect feature morphologies, mismatched sample concentrations, cross-hybridization and scanner bias. Random errors arise from chemical and scanning noise, particularly for low signals. We have used a combination of two-color labeling (with fluor exchange) and rational array design to minimize systematic errors from gradients, imperfect features and mismatched sample concentrations. On-array specificity control probes and careful probe design were used to correct for cross-hybridization. Random errors were

reduced via automated bad feature flagging and an advanced scanner design. We have scored feature significance, using established statistical tests. We have then estimated the intrinsic random measurement error as a function of average probe signal via simple self-comparison experiments (human K-562 cell mRNA). Finally, we have estimated the accuracy of differential expression measurements between K-562 cells and HeLa cells by examining the consistency with which different probes to the same mRNA measure differential expression. The data establish the importance of the use of sensitive probes and the elimination of systematic errors in producing reliable estimates of differential expression.

CC General Biology - Symposia, Transactions and Proceedings of Conferences, Chronicles, Review Annuals *30020
Cytology and Cytochemistry - Human *03508
Genetics and Cytogenetics - General *03502
Genetics and Cytogenetics - Human *03508
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines *10062

BC Hominidae 16.13

IT Major Concepts
Genetics; Methods and Techniques

IT Chemicals & Biochemicals
DNA; mRNA [messenger RNA]; oligonucleotides

IT Methods & Equipment
PCR; DNA amplification, amplification method; cross-hybridization: genetic analysis, genetic method; gene sequencing: cycle DNA sequencing, sequencing method; oligonucleotide array-based analysis: genetic analysis, genetic method

IT Miscellaneous Descriptors
confidence limits; differential expression; genome; Meeting Abstract; Meeting Poster

CRGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

CRGN Organism Name
K-562 cell line (Hominidae)

CRGN Organism Descriptors
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L151 ANSWER 8 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN **2001:514730** BIOSIS
DN **PREV200100514730**
TI Methods and kits for indirect labeling of nucleic acids.
AU **Wolber, Paul K.**; Shannon, Karen W.
ASSIGNEE: Agilent Technologies, Inc.
PI US 6238869 May 29, 2001
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 22, 2001) Vol. 1246, No. 4, pp. No Pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB Methods and kits for labeling nucleic acids are provided. In the subject methods, an oligonucleotide tagged nucleic acid comprising an oligonucleotide tag is first generated. The oligonucleotide tagged nucleic acid is then contacted under hybridization conditions with a labeled oligonucleotide complementary to the oligonucleotide tag, yielding a labeled nucleic acid. The kits of the subject invention at least include a primer for use in enzymatically generating an oligonucleotide tagged target nucleic acid, where the primer generally at least includes an oligo dT portion and the oligonucleotide tag, and a labeled oligonucleotide complementary to the oligonucleotide tag. The subject methods and kits find use in a variety of applications, and are particularly suited for use in gene expression analysis applications.
NCL 435 6.00
IT Major Concepts
Equipment, Apparatus, Devices and Instrumentation; Methods and

Techniques; Molecular Genetics (Biochemistry and Molecular Biophysics)
IT Methods & Equipment
indirect labeling of nucleic acids: labeling method; labeling kit: kit

L151 ANSWER 9 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN **2001:402242** BIOSIS
DN **PREV200100402242**
TI Method for evaluating oligonucleotide probe sequences.
AU Shannon, Karen W.; **Wolber, Paul K. (1)**; Bollenstarr, Glenda C.; Webb, Peter A.; Pinciaro, Robert H.
CS (1) Palo Alto, CA USA
ASSIGNEE: Agilent Technologies, Inc.
PI US 6251588 June 26, 2001
SO Official Gazette of the United States Patent and Trademark Office Patents, June 26, 2001; Vol. 1247, No. 4, pp. No Pagination. e-file. ISSN: 0098-1133.
DT Patent
LA English
AB Methods are disclosed for predicting the potential of an oligonucleotide to hybridize to a target nucleotide sequence. A predetermined number of unique oligonucleotides is identified. The unique oligonucleotides are chosen to sample the entire length of a nucleotide sequence that is hybridizable with the target nucleotide sequence. At least one parameter that is independently predictive of the ability of each of the oligonucleotides of the set to hybridize to the target nucleotide sequence is determined and evaluated for each of the above oligonucleotides. A subset of oligonucleotides within the predetermined number of unique oligonucleotides is identified based on the evaluation of the parameter. Oligonucleotides in the subset are identified that are clustered along a region of the nucleotide sequence that is hybridizable to the target nucleotide sequence. The method may be carried out with the aid of a computer.
NCL 435006000
IT Major Concepts
Molecular Genetics (Biochemistry and Molecular Biophysics); Methods and Techniques
IT Chemicals & Biochemicals
oligonucleotide probe
IT Methods & Equipment
oligonucleotide probe sequence evaluation method: analytical method

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SET COST OFF

FILE 'HCAPLUS' ENTERED AT 06:29:26 ON 11 DEC 2002
E SANA C/AU
L1 16 S E4-E16
E WOLBER P/AU
L2 49 S E3-E7
E PREPOST C/AU
E AGILENT/PA,CS
L3 569 S E3-E16
L4 3 S L1,L2 AND L3
L5 1 S L2 AND L2
L6 3 S L4,L5
SEL RN
SEL SEL
E PROBES/CT
E E1+ALL
L7 14360 S E6-E8,E5

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                E E13+ALL
L8          23824 S E3,E2+NT
                E E11+ALL
L9           6766 S E5+NT
L10          7561 S E4+NT
L11            11 S L5,L7 AND L7-L10
L12            51 S L8 AND L7-L10
L13            13 S L6,L11
L14             7 S L12 AND L13
L15             1 S L14,L13

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      FILE 'HCAPLUS' ENTERED AT 06:34:15 ON 11 DEC 2002
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L16           SEL L15 1- RN :     1464 TERMS
                SET SMARTSELECT OFF

      FILE 'REGISTRY' ENTERED AT 06:34:16 ON 11 DEC 2002
L17           1404 S L16
L18              4 S L17 NOT SQL/FA
L19              3 S L18 NOT UNSPECIFIED

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L20             43 S L1,L3 NOT L19

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L21           SEL L20 1- RN :     1 TERMS
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L23             91 S L22 NOT SQL/FA
L24             76 S L23 NOT L21
L25                STP
L26              0 S L25 CSS
L27                SCR 2042 OR 2330 OR 2065 OR 1994 OR 2021 OR 2016 OR 2026 OR 203
L28             28 S L25 NOT L27 CSS
L29                STP L28
L30             50 S L25 NOT L27 CSS
L31                SCR 2065 OR 1994 OR 2021 OR 2016 OR 2026 OR 2039 OR 2050 OR 204
L32              1 S L28 CSS
L33                STP L28
L34              1 S L33 CSS
L35              1 S UPFA/CN
L36                STP L35
L37              1 S L36 CSS
L38                SCR 1994
L39              1 S L36 AND L38 CSS
L40             10 S L36 AND L38 NOT L31 CSS
L41           2031 S L36 AND L38 NOT L31 CSS FUL
                SAV L41 TUN300168/A
L42            768 S L41 AND C/NC
L43             39 S L41 AND IDS/CI
L44             19 S L41 NOT C,ES OR (CL OR BR OR F)/ELS OR N>=2)
L45              1 S L41 NOT L44
L46            751 S L41 NOT L43
L47           1170 S L41 NOT L46
L48              0 S L47 AND SQL/FA
L49           1097 S L47 AND PMS/CI
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L50          100 S L47 NOT L49
L51           10 S L50 AND NR>=1
L52           10 S L50 NOT L51
L53          119 S L50 NOT (COMPT OR WITH OR MXS/CI)
L54          122 S L53 NOT MONOACID
L55           49 S L54 NOT L4
L56           31 S L54 NOT SALT
L57           19 S L56 NOT CONTU?
L58           17 S L57 NOT L5
L59          856 S L58,L54,L4
             SAV L59 TUN301-01 8A/A

L60         4540 S 57-13-6/CRN
L61            3 S L60 AND SQL/FA
L62         1958 S L60 NOT (ISS OR MNS OR MXS OR PMS)/CI
L63           71 S L62 NOT (NJU?2 OR COMPD OR WITH)
L64           71 S L62 NOT COMPLEX
L65           72 S L58,L64
             SAV L65 TUN301-01-8B/A

FILE 'HCAPLUS' ENTERED AT 06:55:52 ON 11 DEC 2002
L66          677 S L1 OR L65
L67            8 S L66 AND PY<2000
L68            3 S L66 AND (NUCLEIC OR OLIGONUCL? OR DEOXYRIBONUCLEIC)
L69            8 S L66 AND HYBRID?

FILE 'HCAPLUS' ENTERED AT 06:57:06 ON 11 DEC 2002
L70        39723 S L58
L71        57504 S L65
L72       179414 S UREA
L73       118044 S ACRYLAMIDE OR POLYACRYLAMIDE OR POLY ACRYLAMIDE
L74       307340 S L70-L73
L75          999 S L7-L74 AND L74
L76          418 S L75 AND HYBRID?
L77           12 S L76 AND (MICRO ARRAY? OR MICRO ARRAY?)
L78           34 S L76 AND TEMPERATURE
L79            6 S L75 AND L78
             E NUCLEIC ACIDS/CT

L80        39914 S E3-E11
             E E3+ALL
L81       570556 S E3+NT
L82       590672 S E3P0+NT OR E3P2+NT OR E383+NT OR E384+NT OR E386+NT OR E387+N
             E OLIGONUCLEOTIDES/CT
L83        1519 S E11-E13
             E E1?+ALL
L84        51715 S E5,E6+NT
             E E7+ALL
L85       437016 S E157+NT OR E158+NT OR E160+NT OR E161+NT OR E162+NT OR E163+N
L86        31135 S L83 AND L80-L84
L87         6779 S L75,L86 AND (HYBRID? OR SYNTHE?)
L88          450 S L87 AND TEMPERATURE
             E TEMPERATURE EFFECTS/CT

L89           15 S L84 AND E4-E13
L90          197 S L84 AND E15-E21
             E E1?+ALL
L91           14 S L84 AND E1+NT
L92          139 S L84 AND (E53+NT OR E54+NT OR E51+NT OR E52+NT OR E58+NT OR E5
             E TEMPERATURE EFFECTS/CT
             E E1?+ALL
             E E1?+ALL
L93          153 S L84 AND E1+NT
L94         1104 S L86-L87
L95           40 S L84 AND (MICRO ARRAY? OR MICRO ARRAY?)
             E NUCLEIC ACID HYBRIDIZATION/CT
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L96          9886 S E4-E26
                  E E3+ALL
L97        238.4 S E3,E2+NT
L98          3 3 S L74 AND  L96,L97
L99          4 3 S L8  AND L7-L10
L100           1 S L9 ,L9  AND TEMPERATURE
L101           4 S L9 ,L1  AND L1-L15,L20,L70-L100
L102           3 S L1  AND  3 .5 ,SX
L103           2 S L1  NOT L10
L104           1 S L1  AND  9/3 ,SX
L105           1 S L1  AND  9 .5 ,SX
L106           1 S L1 6,L1
L107           3 S L1  NOT L10
L108           4 S L1 7 AND  3/3 ,SX
L109          40 S L106,L108
L110           3 S L1-L3 AND L71
L111           1 S L110 AND 9/3
L112           3 S L109 AND PROBE
L113           2 S L112 AND L70,L71
L114           4 S L107 AND L70,L71
L115          16 S L114 NOT L11
                  SEL RN AN 4
L116           1 S E1-E3
                  SEL RN AN L113 3-6
L117           1 S E4-E19
L118          37 S L109 AND TEMP?/CW
L119           4 S L116-L118
L120         566 S L70,L71 AND TEMP?/CW
                  E TEMPERATURE/CT
L121         233 S L70,L71 AND E4-E23
L122          14 S L70,L71 AND E25-E29
                  E E3+ALL
L123       1767 S L70,L71 AND (E1-NT OR E51+NT OR E52+NT OR E53+NT OR E54+NT OR
L124       1967 S L121-L123
L125        176 S L121 AND L7-L10,L80-L85,L96,L97
L126         67 S L124 AND 9/3,SX
L127        124 S L124 AND (PROBE OR DNA OR RNA OR CDNA OR MRNA OR ?NUCLEIC? OR
L128        911 S L119-L127
L129          6 S L128 AND (?MICROARRAY? OR ?MICRO ARRAY?)
L130         14 S L129 AND HYBRID?
                  E DNA HYBRID/CT
                  E NUCLEIC ACID HYBRID/CT
L131       9986 S E1-E27
                  E E4+ALL
L132      23 .4 S E3,E2-NT
                  E E1+ALL
L133       7 .1 S E4+NT
L134          0 S L128 AND  L1 1-L133
L135          8 S L119,L1 6,L134
L136         40 S L1 4,L1 5 AND L1-L15,L70-L135
L137          8 S L1 6 AND L7 ,L71
L138          4 S L111,L116,L117,L137 AND L1-L15,L70-L137
L139          2 S L1 8 AND TEMP?/CT
L140          3 S L1 8 NOT L1 9
                  SEL RN AN 4
L141          2 S L140 NOT E1-E3
L142          3 S L139,L141
                  SEL HIT RN

      FILE 'REGISTRY' ENTERED AT 07:45:18 ON 11 DEC 2002
L143          4 S E4-E27
L144          5 S L143 AND L 3,L65
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FILE 'REGISTRY' ENTERED AT 07:46:14 ON 11 DEC 2002

FILE 'HCAPLUS' ENTERED AT 07:47:32 ON 11 DEC 2002
E US2001-001688/AP,PRN

FILE 'BIOSIS' ENTERED AT 07:50:51 ON 11 DEC 2002
E SANA T/AU
L145 9 S E3-E7
E WOLBER R/AU
L146 51 S E3,E5-E8
E PERBOST C/AU
L147 1 S E3
L148 61 S L145-L147
L149 27 S L148 NOT AB/FA
L150 34 S L148 NOT L149
SEL DN AN 1-9
L151 9 S E1-E18 AND L150

FILE 'BIOSIS' ENTERED AT 07:55:02 ON 11 DEC 2002